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The BULLETIN

NORTH CENTRAL REGION

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VIRGIN NORWAY PINE

FOREST MANAGEMENT NUMBER

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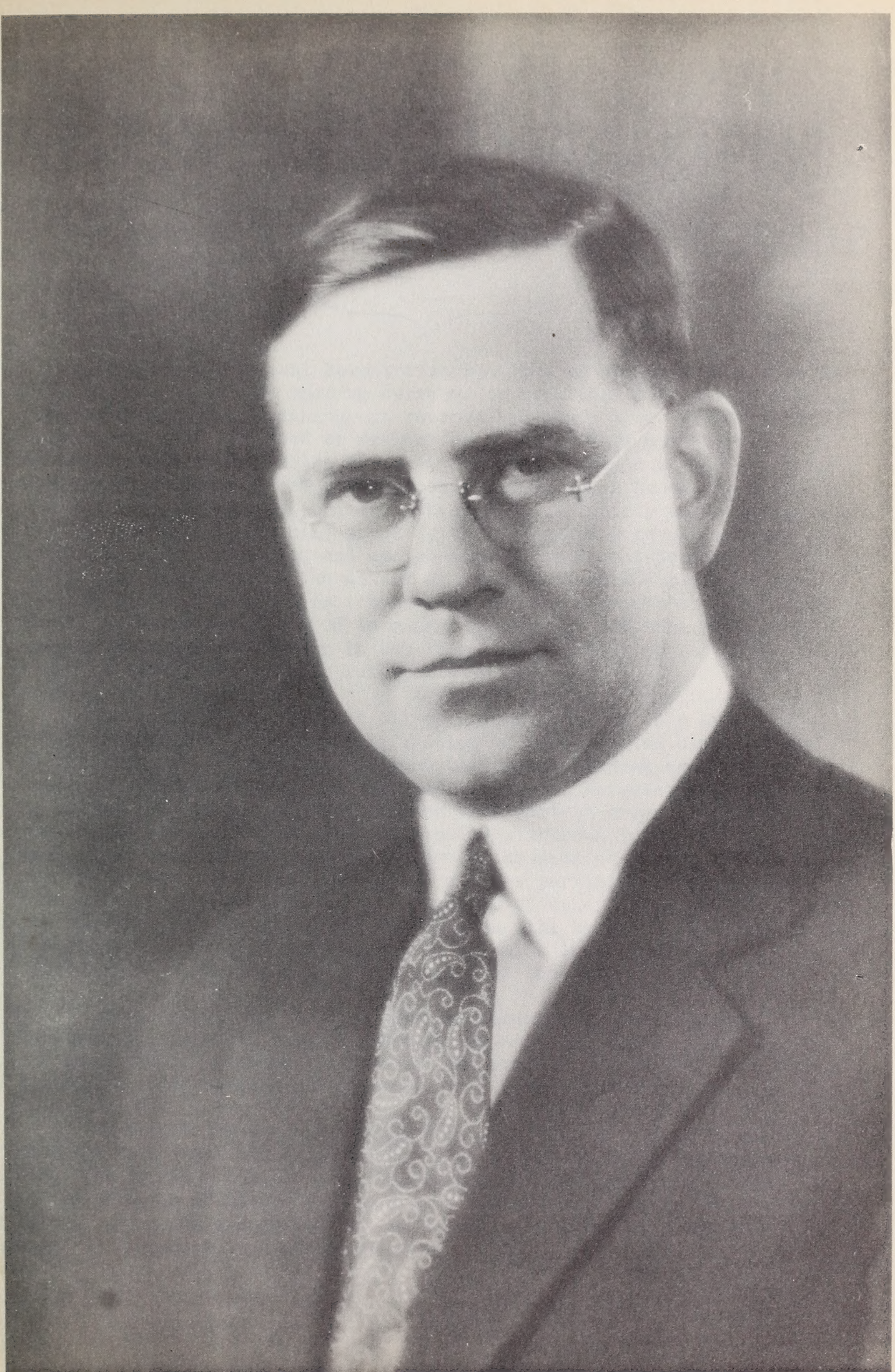

H. BASIL WALES, CHIEF OF FOREST MANAGEMENT-R-9

INTENSIVE MANAGEMENT

BY H.BASIL WALES, AS'ST REGIONAL FORESTER

Under the Regional Forester's objective of making each and every acre productive of the maximum services or utilities that the particular acre is capable of producing, it becomes necessary that Foresters be more than "hewers of wood or drawers of water". They must be more than mere custodians of the forest property but they must be foresters able to visualize a forest fifty to one hundred years hence and to apply now the technical forest practice which will ultimately convert the present remnants to a fully stocked, thrifty growing forest with a proper balance of species and age classes. The Forest Service is definitely committed to the theory of economic land use planning and of multiple use of the forest area. "Tama Jim" Wilson's instructions to The Forester back in 1905 to manage the Forest for "the greatest good to the greatest number in the long run" is about to be undertaken in actual practice as well as in theory.

Intensive Management of all resources inherent in a National Forest requires a careful classification of the area and a meticulous correlation of resource values, each carefully balanced against the other and integrated into the complex biological association making up the whole. Public Service demands that certain areas of outstanding scenic or educational value be wholly withdrawn from timber production and preserved intact. Some areas such as muskeg swamps will be non-productive. Other areas will be partially withdrawn from timber production because of the dominance of other forms of use, but the greatest proportion of the forest area will be used primarily for the production of wood and wood products, with lesser values as a secondary resource, and, as the workshop of the forest community.

It is with this larger timber producing area that Forest Management is most vitally concerned. We must decide now the species and products to be grown, subject to the ability of the soil to produce that particular species and product.

Intensive Management presupposes intensive utilization and the ability to harvest timber products at such time as the trees must be cut. The sustained yield principle requires a proper distribution of age classes if mature stands are not to stagnate pending the harvest or young stands are not to be cut in advance of financial maturity in order to sustain industry.

In most localities, right at the present time, we have neither the market nor the proper age classes. The Management plans must tell us the products which are available now or will become available periodically. Once we have these data, and have worked out the cut which may be made annually, we can interest industry in a permanent set-up. The Region is most favorably situated as to markets and I am confident that the immediate future holds promise of industrial activity.

The National Forests, aside from the Ottawa, have a relatively small amount of virgin timber. Nearly 75% of the area supports second growth in varying degrees of stocking and quality while only 25% of the area has been so devastated as to require planting in whole or in part. The recent decision to plant nearly 4 million acres in a ten year period is a job of first magnitude, but it is overshadowed by the task of placing some 14 million acres in excellent growing condition. Stand improvement work should place the stand in satisfactory shape until the first merchantable harvest on an improvement cut basis can be made.

The accessibility and utilization roads, now planned for construction, will at once reduce the cost of the Stand Improvement Work, make it possible to salvage much of the minor product material cut and make it possible to secure from the areas treated intermediate crop harvests ten to twenty years hence. Everything must be planned on the basis of self-liquidation.

Intensive Management requires intimate knowledge, on the part of the Ranger in charge, of every acre, its stand, and its silvicultural requirements. It means smaller districts than obtained under the old idea of custodianship with perhaps intensive grazing and a few small sales. The National Forest Manager must be first of all a Forester able to see the forest through the trees, second, an Administrator able to correlate values and apply sound financial management, and third, a Sales Manager with ability to sell the product whether it be stumpage, salvage material or the final product of Government owned plants.

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The Huron is advertising a sale of 8,000 cords of Jack Pine pulpwood on the application of the Central Paper Company of Muskegon. This company recently completed a sale involving some 12,000 cords of pulpwood. The company does not object to a small amount of rot nor to knots. The knots are screened out on the first cooking and are reduced by a second cooking, yielding a larger weight of fibre from which paper bringing a 25% premium is made. The Huron is also advertising 750 cords of Jack Pine pulp salvaged from plantation release operations.

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x x
x Fire and ashes - desolation and poverty. x
x x
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NOTES ON TIMBER STAND IMPROVEMENT

David A. Leach - Assistant to Technician F-8
Winona Ranger Dist., Clark P. U., Missouri

One of our first and main objects in T. S. I. is started with Public Relations. We find that the people of this area have been in the habit of doing about as they pleased with the natural resources found here. In order to improve the conditions we must show these people the necessity of fire prevention and regulated grazing. This cannot be done in one year, but will take several, and will require the education of the younger generation. A great difference can already be seen in the timber here due to our protection since the E.C.W. work was started. What will the difference be in ten years?

The effect of our T. S. I. work cannot be noticed now, but within the next five years if we were to return and take increment borings we would notice a decided difference in the growth caused by our present work. To select the most desirable species is a problem which must be solved for each area individually. A preferred species cannot be selected for the whole area due to the difference in soil types, and since we must select species which are suited to the soil types we will eventually have a mixed forest. A forest of this type will simplify logging operations and decrease the possibility of insect infestation. This will also prevent the more rapid growing species from being mixed with the slower growing and overtopping them.

It is evident from observation that the timber which we now have is seriously defective and will afford little more than ground cover, seed production, and cord wood. It seems logical from a silvicultural standpoint that we should show more attention to the reproduction in the next few years and to fire prevention, in preference to the seriously defective stands which we now have.

Pine is one exception, however; it will partly and sometimes wholly overcome the injurious effects of fire, and also it is not so susceptible to heart rot. Therefore, in consideration of reproduction which came before our fire protection was established, I believe we should consider pine first.

(See following comments n Ellerhoff's article.)

* * * * * * *

REPRODUCTION - WHAT SHALL WE DO WITH IT?

By M. A. Ellerhoff, Assistant to Technician,
Fremont Ranger District, Clark P. U., Missouri.

Nature, when she planned her regeneration work sheet for the Ozark Region, must have thought kindly toward the forests of that particular area. It seems she provided against every possibility that might make

the timberland non-productive. However, nature in carrying out her plans, has some obstacles in her path; mainly the ensuing injuries which fire causes to both "repro" and the stands as a whole. The problem of fire injury is foremost.

We must indeed, use our ingenuity in deciding if and how we shall replace most of the present hardwood reproduction with a stronger stand of deciduous growth. However, first let us see in what way nature provided for the possibilities of good reproduction. Then we shall try to see where she ceases to guide the destinies of the forest and hands the reins to us.

Nearly all the species sprout well from the stump whether they are cut in seedling or sapling stage. Even though fire enters in as an unfavorable factor, killing off the tops, young growth will come up from the roots. The oak and hickory species sprout especially well in this respect. Oak and hickory regenerate well by seed--particularly under old stands which are more or less open. So all in all, the question of keeping the forest productive is well taken care of by nature.

Now comes the problem of man. We have in this area abundant reproduction. According to tallies taken, there are more stems per acre by far, than is necessary. Yet, due to fire sweeping through at numerous times in the late years, there arises a serious question whether the hardwood reproduction will overcome the incipient rot from fire damage.

Fire has not injured the stands so much in regard to bringing in a species inferior to those previously occupying the site, but has definitely harmed the young trees and "repro" by scarring--thus permitting disease and rot to attack the tree's heartwood. Of course, fire is a controllable factor in the handling of future stands, but the question arises as to how to handle the present fire damaged reproduction. Shall we try to manage the present type, or try to change not the species but to build up a stronger, sturdy type of reproduction of the present species, or shall we change to a different type of timber altogether?

These questions are pertinent and quite basic as to what method of management we who have just "moved in" the Ozarks must employ. They are vital to planting programs, present and future timber stand improvement and other forest activities. We need to apply information available on this as well as conduct administrative research with these questions in mind.

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COMMENTS ON LEACH'S & ELLERHOFF'S ARTICLES

Perhaps our big job in T. S. I. work is to help rather than thwart nature, i.e., direct our effort towards securing new reproduction which has not been fire-scarred.

We must recognize the need for a forest canopy to maintain true forest conditions, a properly aerated and absorptive soil with a forest floor of leaves and duff.

The present abused stand probably will never produce quality material but we will salvage the best possible product. In the meantime we will secure the reestablishment of an undamaged forest, made up of the very best species. It is confidently expected that a forest pathologist will be assigned to the Central Hardwoods to advise with us on the rot conditions. He may be able to help us a great deal but I am confident we will have to accept temporarily, a large number of fire-scarred trees with rot already developed, carry them a few years as a protective forest, and work out ways and means of utilizing the low grade material when it is finally cut out of the stand to give the young reproduction which we will secure, a chance to continue growth.

H. B. W. - R.O.

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HICKORY - THE FORGOTTEN TREE

William L. Hatch, Technical Foreman,
Clark National Forest, Pristoe P.O. - Missouri

To date hickory has received very little attention in our management plans. This species is very badly damaged by rot, which has its prime port of entry through abrasions caused by fire. Since it has been Ozark tradition to burn the woods annually, Missouri has very little good hickory.

Unlike many species of trees, rapid growth improves the quality of hickory, thus making it especially suitable for the better sites. It reproduces well, both from sprouts and seed, and under suitable conditions grows rapidly. It is not unusual for a hickory tree to grow from one-third to one-half of an inch of diameter per year. The fruit from the trees is of local value, and a high stumpage price is being paid for hickory bolts to be used for making handles. At the present time local handle mills are purchasing bolts at the rate of $16.00 to $20.00 per thousand board feet, delivered at the mill. Pine and oak delivered on the skidway brings only $4.00 to $8.00.

Hickory possesses certain qualities which make it the choicest material for tool handles, a fact which must not be overlooked when striving to do the greatest good for the greatest number of people in the long run. Its need for management is indicated by the fact that local mills are forced to draw their raw material from as far as one hundred miles.

Bearing these facts in mind, together with the desirability of a mixed stand, hickory deserves considerable serious attention in our management of southern hardwoods.

NOTES APPLICABLE TO SOUTHERN FOREST CONDITIONS

The article from which these notes have been taken was entitled "Artificial Replacement of Chestnuts" by John E. Aughanbaugh, which appeared in the Service Letter from the Pennsylvania Department of Forests & Waters on Feb. 21, 1935.

The question confronting us is what to do on severely depreciated timberlands from which the more valuable timber has been removed and where its place has been taken by inferior species. Repeated fires have destroyed the soil productivity and coupled with destructive logging and grazing have undoubtedly contributed a great deal to the development of erosion. While the above article concerns itself primarily with the replacement of the chestnut, which is doomed to go anyway because of the chestnut canker, the principles are believed to be applicable to southern conditions where it is a question of replacing inferior species such as sassafras, jack oak and others, as well as a general rebuilding of the soil.

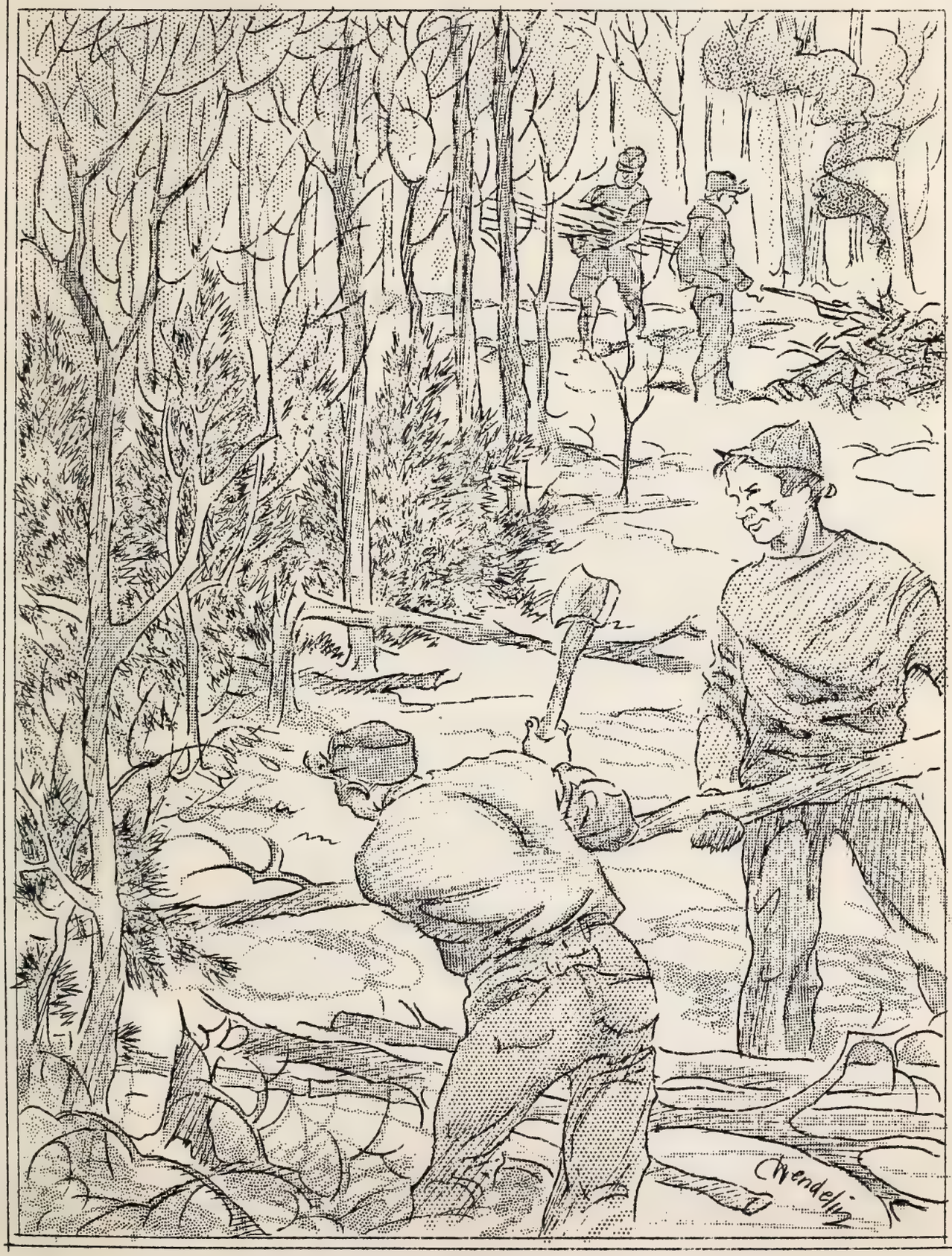
Judicious improvement cutting that will rid the forest of the "weeds" and yet not open up the forest too much, that will release the better trees, will start the curve of productivity in an upward direction and will immediately show increased profit in terms of increased growth. Sometimes it might be advantageous to wait for a good seed year if seed-bearing trees are present. Scheduling the cutting at that time would stir up the soil and create a favorable seed bed. Such improvement cutting should be done frequently on accessible areas, increasing the time interval between the operations as the areas become more inaccessible. Material which will become merchantable within a period of from one to five years should not be cut unless there is a market present for the product. In very inaccessible areas this principle would be modified somewhat perhaps.

Opening up the forest and letting in more sunlight creates conditions favorable for growth and regeneration of light-demanding trees such as tulip poplar, black locust, hickory, and some of the better oaks and pines. Also, the opportunity is vastly improved to build a mixed forest by planting conifers or some desirable hardwoods.

Although intelligent use of the axe usually brings results, the practice has very definite limitations in solving a problem of stand improvement. Lacking a suitable market or use for the material felled with the axe, the act is more thoughtless and wasteful than wise. Progress in solving the problem under such conditions must necessarily be slow and much more conservative. The market possibilities are present, however, to a larger degree than is generally recognized. All they need is a stimulant and a systematic development.

While little is known regarding the best species to plant on depreciated forest soils, some justification exists for recommending

TIMBER STAND IMPROVEMENT



certain species. We know that no species will grow successfully in every location. On the poorest sites it is generally recognized that such rapid growing conifers as pitch pine, red pine and Virginia pine should be planted. Larch, shortleaf and white pine are suited to the better areas. It has been recognized that white pine proves more resistant to weevil when planted sparsely under partial hardwood shade. On inferior sites the planting of conifers is recommended because of the slow growth of the hardwoods. For the sweetening of valuable stands on good sites it may on the other hand, sometimes be more desirable to use native hardwoods such as tulip poplar, white ash, red oak, sugar maple, black locust or basswood.

Many years of experience with the establishment, care and protection of plantations, has brought forth one bit of hard-earned knowledge concerning the advisability of maintaining mixed stands of a character similar to those developed by nature. While all sites are not adapted to the growing of mixed hardwood and conifer forests, it is generally found to be a very desirable combination on most sites. The degree of representation of each in the stand will vary, of course, but in those where conifers predominate the natural growth of hardwoods should serve as fillers for the planted trees, forcing their height growth, shading off their lateral branches as well as contributing a great deal to the maintenance of a good fertile soil.

In many instances, it will be found desirable to combine planting with forest improvement operations. Generally speaking, only large, well-developed planting stock should be used. When handling planting stock that is light-demanding, special care must be exercised to avoid stumps and dead standing trees that would be likely to sprout vigorously. If not done, the planted tree will be suppressed and the cost of releasing will be increased.

On most such planting sites, experience has shown that from one to three release cuttings will normally be required. In those operations, the more desirable hardwood sprouts and seedlings are never removed unless they interfere with the growth of the planted trees. In Pennsylvania, it has been determined that the total cost of periodic release cuttings should not exceed $5.00 per acre.

It follows of course, that as a general restorative measure, planting should not be attempted where the character and amount of natural regeneration insures a satisfactory stand at maturity.

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- Fir Yew -

Accounts auditors are of the o-pinon that travelers wood cedar money fir expenses quicker if they wood spruce up their expense accounts. Those who check dates, time they leaf their official station, and other items, before submitting expense vouchers are poplar with the auditors. (D. Crosno)

SECOND ANNUAL FORESTRY MEETING AT HILES SCHOOL

Nicolet National Forest

It is the custom for the community of Hiles, Wisconsin, to dedicate one day of each year to Conservation. This community, a few years ago, was wealthy because it was surrounded by virgin timber and had a thriving lumbering industry. Today, it is poor because the timber has been logged. On this Annual Conservation Day the past is recalled, promises made to preserve natural resources, and to develop the land so that the future generations may again enjoy what their forefathers had when the land was covered with trees.

The community has a school nursery and forest. The seeding, planting and care of plantation is done by the Junior Forest Rangers Club and the high school students. The boys are encouraged to develop the forests, their own lands, such as this school forest.

The entire community of Hiles attends the formal dedication on this Forestry day. Members of the United States Forest Service and the Wisconsin Conservation Commission deliver the addresses. A very impressive planting ceremony closes the dedication. Three trees are planted; one is dedicated to the Senior High School class. All of the graduates place their signatures on a scroll which is placed into a bottle and planted with the tree. The second tree is dedicated to the Junior Forest Rangers Club. During the planting the Club recites the Rangers' code. The third tree is dedicated to the Women's Club, as a memorial to that organization. The ceremony is solemn and impressive, men and women bowing their heads in silence while the Junior Rangers plant the trees.

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FORESTRY OBJECT LESSON

H. K. Robins - Gardner

The people who live in the Gasconade Purchase Unit had a real object lesson for the need of forestry program during the past month. About the middle of the month a seven inch rain fell. The local streams quickly rose to unbounded proportions. Fields along their banks were gullied, bridges were washed out and roads in many places were made impassable because of fills that were torn out. If the forests had not been so badly neglected in the past such flood conditions would not have resulted even after such heavy rains. Perhaps the damage done will be somewhat balanced by the impression made upon the local people for the need of Forest Conservation. These people may see the importance of leaving forest areas unburned for the purpose of erosion control. In spite of the fact that considerable damage was done we may be consoled in hoping that "It is an ill wind that blows no good."

A FOREST FOR NORTH DAKOTA

By Arlie W. Toole, Forest Supervisor.

Any thought of creating a national forest in North Dakota must give consideration to the practicability of such a measure. The popular conception of North Dakota as a vast prairie State, totally without trees, is wholly erroneous. While it is true that there is very little natural timber growth compared with the other States of this Region, evidence is at hand which demonstrates clearly that trees have grown in North Dakota and can be grown again. The presence of many fine groves and wood lots which have been planted in certain sections of the State is evidence enough that tree planting has been successful in the past and can be in the future.

On the basis of a report prepared by the Lake States Experiment Station, that certain areas in North Dakota are well adapted to tree growth, the National Forest Reservation Commission approved two Purchase Units in March of this year. The Souris Purchase Unit is in the north central part of the State and the Sheyenne Unit is in the southeastern part. These two units have a number of geological features in common. The soil types on these Units are very similar, being a light sand to sandy loam and sand dunes have been formed in certain places. Both areas have a permanent water table close to the surface of the ground (6'-20'). Each Unit is traversed by a river along whose course a number of species of trees grow naturally. A number of early settlers have stated that considerable tree growth occurred in the dune areas at the time of the first settlements, but this has largely disappeared due to cutting and prairie fires.

A forest in North Dakota will certainly have to be erected by planting. To this end, a nursery has been established on the Souris Purchase Unit at Towner, which is expected will supply planting stock for both Units. Under conditions as severe as prevail here, the planting program will necessarily be limited to those species that have demonstrated their ability to do well under severe conditions. It is believed that green ash, cottonwood, elm and burr oak will be strongly favored for planting for the hardwood group and ponderosa pine, red cedar and possibly, jack pine for the conifers. Time and experience will possibly demonstrate that other species are equally well adapted to conditions in North Dakota.

A forest in North Dakota will be highly beneficial to the surrounding territory by making the area more liveable, by creating a habitat for game and wild life, by furnishing wood products for an area that is at present far removed from producing centers and by putting a good deal of low grade land to a sound economic use. It will help where help is badly needed in controlling wind erosion. In fact, a "Forest for North Dakota" would not only be a good slogan, but a mighty good thing for North Dakota to have.

THE CCC SURVEY MAN

C. B. Crawford, Technical Foreman - F-47 Ottawa

In the bigger and better Ottawa National Forest, acquisition and forest inventory plays quite a prominent part. New areas have to be looked over to see what work should be done on them. To speed up this inventory work enrollees are given us to train as compassmen and to map and tally as well.

It has been a pleasure to note how gladly these boys take to the work and how eager they are to learn the why and wherefore of everything. Of course, generally the ones selected have previously shown a willingness to learn, but even then it is quite remarkable how quickly they grasp the details.

With the high turnover in technical foremen, the boys on this work become very valuable to the camp, as they know the section corners and landmarks much better than the more recent arrivals. It will be interesting to note their value in this line during the fire season. The training such enrollees get under a number of foremen in this and other forestry work should prove very valuable to them and one can readily see that many of the future forestry men will come from the ranks of the C.C.C.

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Excerpt from Michigan Conservation Magazine, March 1935.

"CONSERVATION PRESENTS CHALLENGE TO WOMEN'S GROUPS" - Audrey Dewitt

"Probably no field of conservation endeavor offers more opportunity to the women of Michigan than that of education, and this should begin in the home. Strive to make the family conservation minded. Teach sons and daughters to appreciate the beauty of the forests and their inhabitants. Help them to acquire an understanding and respect for the rights of others in the woods. There are too many hunters who blaze away at any motion in the forest and take more than their share of game; too many campers who leave the woods and camping sites littered with unsightly refuse."

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TIMBERING IN THE FIRST

Camp Gallia Inkwell - Ohio

I'm off in the distance on the Mossman farm. I see some peculiar looking operation over on the opposite hill that looks like some thousand legged worm. I was curious to know what was going on and as I came nearer there was a two cant hook crew of the First Section lugging a log that would have kept the home fires burning for a year. No wonder I thought of a thousand legged worm; there were six sets of hooks hooked into that log with twelve men on the handles.

BLACK WALNUT IN IOWA

D. A. Arrivee - Forest Supervisor

Black Walnut, the most valuable tree in Iowa and, once common enough to provide the frames and beams of many an old farmhouse, is becoming scarce in the State today. During the war most of the large, sound trees were bought for gun stock and the remaining ones are still being searched for by dealers and by independent tree spotters.

The wood warps, shrinks, and expands least of the hardwoods and doesn't loosen easily in the handle. It is used principally for gun stock, cabinet making and veneer and is prized for its rich color and for its hardness and smooth texture. The narrow band of white sap-wood is darkened by steaming and by weathering. Stumps over 20 inches in diameter at the top and from 24 to 30 inches long are valuable for veneer on account of their figured grain and they sell for from $60 to $120 per M if sound. Clear crotches 16 inches or over in diameter and from 24 to 30 inches long sell for $1.00 to $2.50 each.

Almost fabulous prices have been paid for exceptionally good Black Walnut trees in Iowa but the average price is about $18.00 per tree of from 24 to 26 inches D.B.H. and they are usually bought by the tree rather than by board foot measure. Logs are saleable as short as 8 feet in length and 12 inches and over in diameter.

Black Walnut grows best on the rich, moist soil of well drained bottom land, but will do well on upland soils if they are deep and fertile and fairly moist. Because of the great value of individual, open-grown trees the computed returns from Black Walnut plantations are likely to be a little exaggerated. This species must be spaced rather far apart for quality production. Starting with an 8x8 foot spacing to obtain height growth and natural pruning and thinning to a 25 foot spacing at 20 years, a rotation of 60 years on good soils would produce trees that average 18 inches D.B.H. Top trees have reached this size in plantations on bottom land in 30 years. With wider spacing the rotation on the best bottom lands might be reduced to 40 years.

The value of such a 60-year-old plantation, conservatively estimated to yield 8 M feet per acre, at $60.00 per M, would be $480.00 per acre, or $8.00 per year of growth. Walnut thinnings are more valuable in Iowa than those of any other species, and would add materially to the valuation.

Because the most useful and most valuable Walnut trees are those that have grown singly to a large size, the best management of plantations may prove to be for wide spacing of from 30 to 40 feet with interplantings of Black Locust or Maple to provide for height growth of the Walnut and to be cut out as thinnings and as the first crop of saw timber, leaving the Walnut to ripen into fine, large veneer stock on a long, quality rotation.

The possibilities of producing with this species a product of

exceptional quality and great usefulness on a long rotation should warrant group planting or even specimen planting on very favorable spots within forest plantations of other species, not only for greater income but to restore to its former place perhaps the most typical and the most cherished of the early American furniture wood trees.

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HURON HUMOR BROUGHT UP-TO-DATE

Did you ever hear the one about Louie Pommerening stopping at Silver Creek Ranger Station with a big truckload of CC's on the way to town, to be met by Ranger Knutson who started to administer a good dose of Knutson sarcasm about the danger of blowouts with overloaded trucks? Louie stood there taking it all in when - WHAM!!! one dual went flat!

Ask Louie about the time his draftsman turned in a plowable area map showing plowable land about 2 miles east of Oscoda, which is 2 miles out in Lake Huron!

Then there's the one about Jerry Cook asking two CC's who looked surprisingly small and young for their age and weight, how old they were on three consecutive inspections. They wanted to know if this was a new sort of a game!

Quill Quillinan, apparently in the midst of a heavy purchasing program for his acquisition crews, woke up his wife one night to tell her to remind him to order the blond wigs for the acquisition men. He still claims to have been talking in his sleep.

Only recently Harry Adams and Mott Cannon, game experts, attempted to catch barehanded an innocent woodchuck who had momentarily escaped their grasp by diving under a wood pile. Our heroes tore the pile apart and poked every possible nook and cranny with a stick in a vain attempt to find the beast. An hour later, on returning to the pile, they found that he had merely made a small hole and filled the opening with dirt - the very opening which the experts had prodded with the stick - See Adams for particulars.

Our story is not complete without a reference to last fall's Supervisor's trip, when after partaking of lunch at Silver Creek Camp, the entourage started for the parking lot and their cars, to be met by a local citizen gloriously pie-eyed, - so drunk, in fact, that he could stand upright for only a couple of steps when he would totter over and roll on the ground. We were informed that he was applying to Superintendent Tribe as an L.E.M. Was Supervisor Kelleter's face red???

* * * * * * *

AND STILL THEY COME

R. S. Maddox, R. O. Technician

Two heads grew in the place of every one that was cut off of that monster, the Hydra - or so the story goes - by the god Hercules, until he applied the firebrand to the neck-stubs from which he had persistently clipped the multiplying heads. In this way he stopped them from replacing themselves and was thus enabled to slay that serpent.

The Central Hardwood Forests "go the Hydra one better". Their heads have been cut off repeatedly and fire applied, but still "they come back". Both man and beast have done the cutting - man with his axe and torch, the beast with his tooth and hoof. The wonder is that any Central Hardwood Forests still exist, that so many trees, or rather that any trees at all have come back and stayed in the face of such devastating weapons.

Those portions of the 14 States composing the Central Hardwood Forests make a little empire within itself, yet, one of the important railroads into Cincinnati is said to have been constructed South and East into the farther stretches of the Appalachian country, chiefly for the purpose of making available the lumber from that section for the Cincinnati markets. The abundance of timber formerly contained in this hardwood region, as elsewhere, is credited with having imbued its people with a widespread disregard for trees and forests. These constituted obstructions wherever they stood, not only to the view but to the desired use of the land. They were, therefore, something in the way, a "thing to be gotten rid of". The consequent continuous attack, therefore, upon this domain of trees, has left in its wake a widespread wreckage of land to be reapportioned for its respective best uses, - one of these, the support of forests.

Practically all the hardwood species East of the Mississippi River, particularly the most valuable ones, are found in this section. The oak, walnut, yellow poplar, cherry, ash, sugar maple, and a number of others, are famous. Their number and sizes were once phenomenal. Their abundance may become phenomenal again, but very likely they will never again have the opportunity of attaining such proportions in size as their predecessors.

Areas now reduced in quality of soil, henceforth devoted to support tree growth, will restore themselves to the fertile status they once held. Time will be necessary to this end, but nature with a prodigal hand has flung broadcast on this forest region and its species those qualities which make tree production as a rule sure and easy. Man will extinguish his torch, drive out the hoof and select from the abundance before him the species and trees he wishes to grow his house and bed, his work-shop, his art gallery, his hunting ground, his play-ground.

The glories of the Central Hardwood virgin stands are history. They may never be emblazoned by records compiled by a Paul Bunyan and his devotees, but their successors, the future man grown forests, may contain facts in their history that will not be wholly dwarfed by the legends of the Great North Woods and the Big Blue Ox.

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FIRE PREVENTION HINTS

Iron Cessay News - March, 1935.

A tiny Camp-fire left aglow--
The Kind you thought was out, you know--
May blaze anew a thousand-fold;
Your FIRE'S not out until its COLD!

"What causes Forest Fires?" you say.
Often the stub you throw away,
Fanned by the idling Summer breeze
So set your heel upon them, PLEASE.

You like to fish? Of course you do,
And fishing streams are mighty few,
THE FOREST FIRE'S the reason why,
For Forests burnt mean streams gone dry.

You like the hunting in the Fall?
Most fellows do--and if they'd all
PUT OUT THEIR FIRES before they go,
The game would have a better show.

GET THE HABIT, Nothing to it--
All the reg'lar fellows do it--
Break your match before you drop it,
FIRE'S our bugbear--help us stop it!

Traveller, please, before you go,
Douse your fire with H_2O.
Pour some more if you're in doubt
Camp-fires are the best thing OUT.

A word to every logging crew.
The timber burnt is lost to you;
Each Forest Fire is lost that gets away
Shuts down the work--and docks your pay!

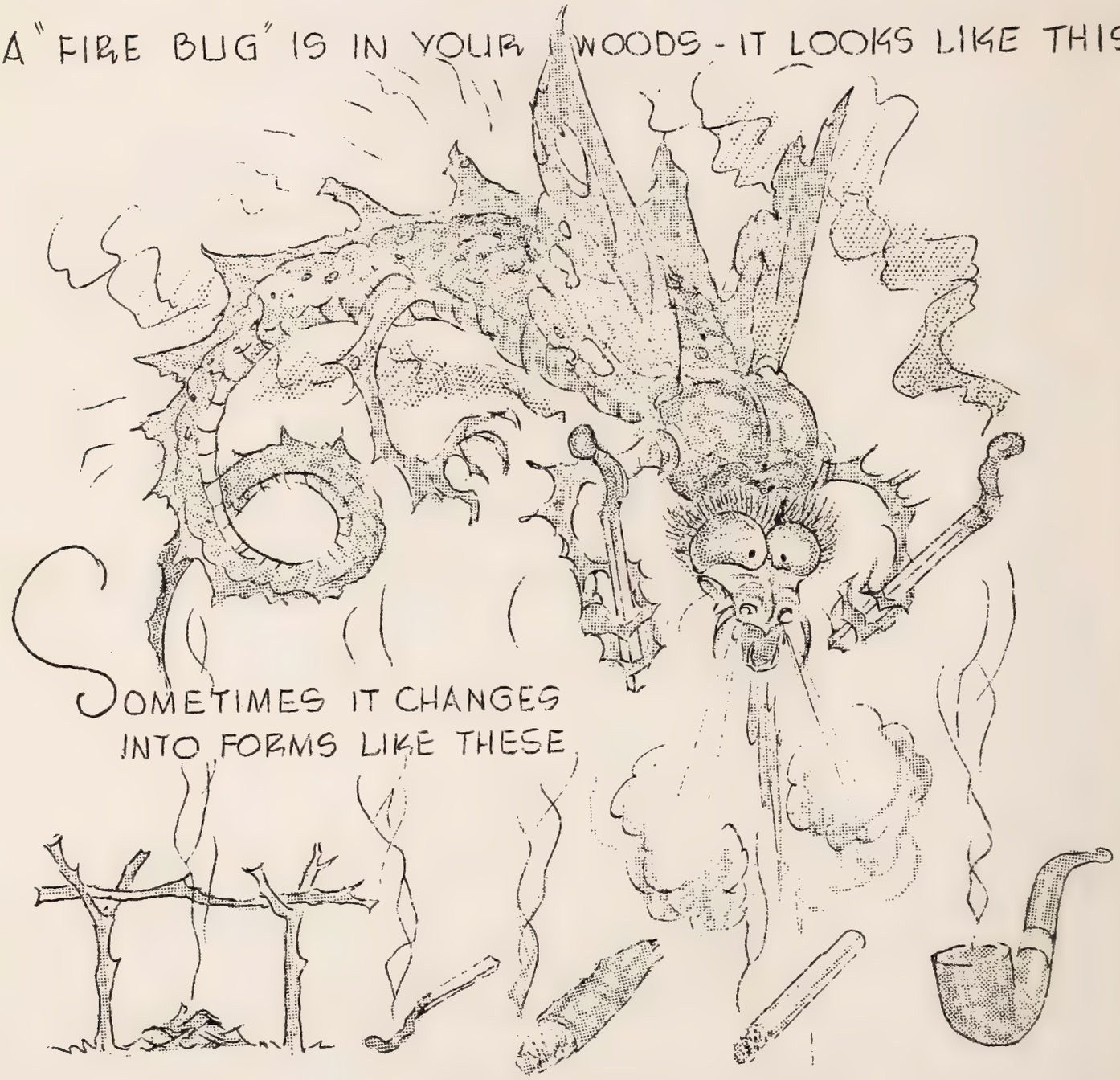
W. H. Currie.

NORTH CENTRAL REGION

MEN ATTENTION !

BEWARE !

A "FIRE BUG" IS IN YOUR WOODS - IT LOOKS LIKE THIS



SOMETIMES IT CHANGES
INTO FORMS LIKE THESE

WE DO NOT WANT "FIRE BUGS" IN THE WOODS
DURING THE FIRE SEASON. WE SHOULD ALL
HELP TO RETAIN OUR NATIONAL WEALTH FOR
WE ARE ALL SHAREHOLDERS

COOPERATION IS ASKED OF YOU !

DESTRUCTIVE FIRES IN MISSOURI

Excerpt from editorial in Missouri Fish, Forests & Game Magazine.

With the allotment of two new national forest units to Missouri by the National Forest Reservation Commission, Missourians are becoming aroused to the economic importance of trees. Divided into eight units the forest as now authorized would include parts of thirty-two south Missouri counties comprising over three million acres.

For more than two generations we have spent a lot of time and money in destroying trees but today we are at last realizing that trees have something to do with the conservation of soil, the balancing of rainfall and are profitable as a crop. Today we are able to see the folly of the wastefulness of our pioneers as to destruction of timber and are taking steps to correct this short-sighted policy. We also are becoming aroused to the economic importance of the farm timber patch, as well as to the necessity of more practical handling of the timber areas of this state. Forest technicians say that it is time for the Missouri farmer to give to wood crops some of the attention that, in the past, he has devoted to the production of food crops.

We are indebted to the editor of the Lake-of-the-Ozark News for the below comment on "Woods Burning," and the detrimental effect of the practice which has cost the state so much in loss of soil fertility and loss of wild life:

"It takes years to educate people to a line of conduct, which if they give it some thought, would be obvious to them. 'Woods burning' is foremost among the foolish practices prevailing in many sections of this state as well as many other parts of the United States. If people owning woods land could only be brought to realize that every time their woods is fired they are burning up real money that should be theirs, the practice would decrease and possibly cease altogether. When they fire their woods they burn up all shelter for wild life, and thus reduce or extinguish altogether the game that their acres would help to propagate. They kill all young timber undergrowth. They stunt the growth of trees. They produce burned stubble that makes it difficult and painful for grazing animals to eat the short fresh and tender young spring grass. They endanger property of their neighbors--sometimes life. They gain nothing. There positively is less grazing grass. They may have the foolish idea they are exterminating ticks, but observation will show that next year the ticks will be more plentiful on burned-over woods than in woods which have never been fired. In many states it is now a crime to fire woods.

"Give the grass a chance--give the game a chance--give young timber a chance--give your neighbors a chance--stop setting fire to the woods."

IMPRESSIONS OF AN EX-CAMP SUPERINTENDENT ON FOREST MANAGEMENT

R. W. Sloss - Technician

Only in a vague sort of way did I realize what I was in for, when on returning to camp from the field one day last January, I was notified that I was to report to the Regional Office for work in the Branch of Management. Being long out of the Forest Service and Civil Service, my work for the past two years had been that of an ECW camp superintendent. Consequently, my vision had narrowed down until my mental picture of the work in Management did not begin to envision its tremendous scope of activities.

My rude awakening can well be imagined by anyone who has been stationed in the Regional Office for any length of time. The multitudinous duties of the Branch of Management are too well known to need enumerating. The gigantic planting program, with the consequent necessary increase in the capacities of the nurseries now in existence and the development of new nurseries, until at the present time there are either as completed nurseries or in the process of acquiring and development, twenty Forest Service Nurseries, with capacities ranging from 20 million to 60 million seedlings per year. This has brought us face to face with the seed problem. Past experience has taught that seed is best when obtained in the locality where it is to be used, and from healthy well-formed trees. With some species, such as Norway pine, this has forced us to try to purchase mature stands of trees so that we can produce our own seed.

Millions of acres of land now covered with growing trees, are in need of a vast amount of work to put the areas in shape to produce good merchantable products in a shorter period of time, in a more orderly fashion, and to put the forests of this Region on a sustained yield basis. The variety of problems in connection with timber stand improvement alone are sufficient to load this department with work.

For each and every problem presented in Forest Management for the nine States of Region Nine, with its fifteen National Forests, the final responsibility rests in this office. When sales of timber are made, free or administrative use permits are issued involving amounts larger than authorized for the supervisor, nurseries are established or enlarged, instructions on timber stand improvement are issued, and so on, with a list too long to enumerate, the final decision must be made in the Branch of Management. The responsibility involved in making the Right Decisions is great enough to inspire us who are working in this Branch to be unmindful of hours, and untiring in our efforts to take as much of the load as is within our power from the shoulders of the one who is at the head. Not only must we relieve him of routine, but we must be thorough and accurate enough so that our work needs no detailed time-consuming scrutiny by the branch chief.

The rapid strides being made by Region Nine are, in my humble

judgment, a direct result of the most magnificent teamwork between chief, branch chiefs and supporting personnel that it has ever been my privilege to witness in either Goverrmental work or private industry.

* * * * * * *

DEER HAVE COLLISION

While on a recent inspection tour of the Hiawatha National Forest, Mr. Hoffmeyer, construction engineer, accompanied by R. Nuoffer, clerk, was confronted by an oddity of nature which proved to be quite amusing.

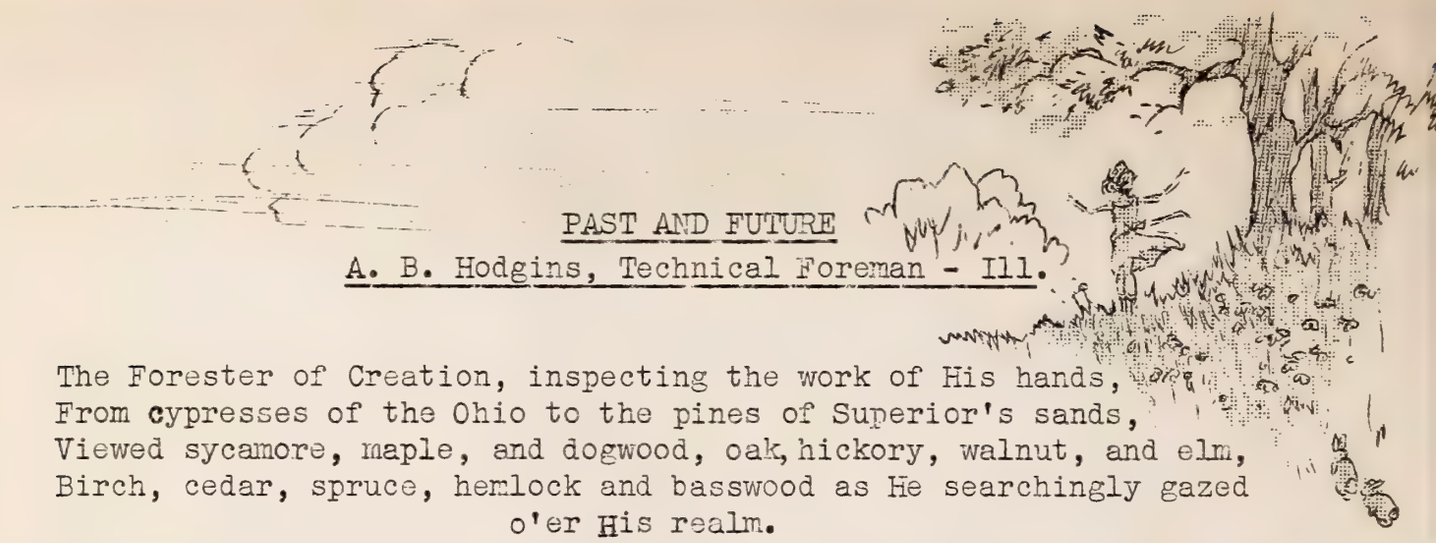
While traveling at the rate of twenty-five miles per hour along the Manistique Truck Trail, just north of Straits Lake, and at an intersection of a well traveled deer runway, a deer emerged from a poplar thicket on each side of the road. Due to the fact that their interest was drawn to the approaching vehicle, they collided in the center of the road but split in a second, each regaining its bearing and were away at top speed. From all appearances, through the dust raised in the commotion, just a small portion of the front shoulder of each deer met in the concussion.

* * * * * * *

BE WHAT YOU IS

"Don't be what you ain't;
Jes' be what you is;
'Cause if you is not what you am,
Den you am not what you is;
If you is jes' a little tadpole,
Don't try to be a frog;
If you is jes' de tail,
Don't try to wag de dog.
You can always pass de plate
If you can't exhort an' preach;
If you is jes' a pebble,
Don't try to be a beach.
Don't be what you ain't
Jes' be what you is,
'Cause the man that plays it square
A'gwine to get his.
It ain't what you has been,
It's what you Now AM IS!"

"Northern Light" - April 10.
13th Forestry Dist. C.C.C. Paper.



PAST AND FUTURE

A. B. Hodgins, Technical Foreman - Ill.

The Forester of Creation, inspecting the work of His hands,
From cypresses of the Ohio to the pines of Superior's sands,
Viewed sycamore, maple, and dogwood, oak, hickory, walnut, and elm,
Birch, cedar, spruce, hemlock and basswood as He searchingly gazed o'er His realm.
Then He frowned as He noted the spaces that were wasted and bare 'neath the trees,
For He knew that the blooms of the tree-tops were only for birds and for bees,
And He ordered that millions of rootlets be planted in each empty nook.
Blue-bells, spring beauties and lilies were scattered where children would look.
Dandelions and daisies, He placed them where the paths of the children would wind,
But the trailing arbutus and orchids were hidden for lovers to find.

The Forester, resting at noon-time by a spring 'neath a maple's wide shade,
Heard the sound of the quail and the partridge, saw the path that the red deer had made;
Found signs of the coon and the beaver, asleep in their well hidden homes,
And aroused to the squirrels' loud chatter from the nests in their aerial homes;
Saw fish in the basin below Him, content in their watery lair.
"It is ready for Man", He decided, "I will leave it now to his care."

Our Forests are sadly depleted wherever one pauses to look.
Man has taken whatever he needed and wasted far more than he took.
The rebuilding wisdom of Nature, defeated again and again,
Still struggles against the depletion, though much of the effort is vain.
The game bird flies fast from our country, our rivers turn muddy and dry,
Our fire-eaten hillsides are barren where foxes and deer used to lie.

The Forester, facing the future, has visions of what yet may be,
As he gathers the seed of the Forest and nurses its growth to a tree;
Fighting the hot flames of fire that relentlessly kill each new twig,
And patiently teaching the people their need of the forest is big,
Showing results and their causes until every person agrees
That water, soil, contour and climate, must ever be governed by trees.

MANAGEMENT PLANS
Earl C. Sanford - R. O. Inspector

There has been planning of work on the National Forests as long as there have been National Forests. In the early days of the Service the plans were relatively simple and were often filed in the minds of the Supervisors and Rangers instead of in the capacious filing cases and atlases which have been developed as a result of increased and intensified use of the forests.

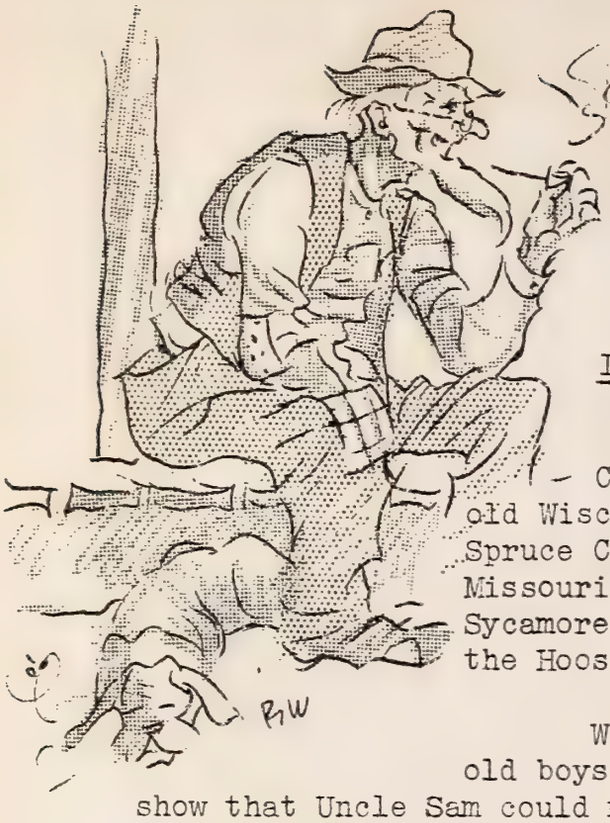
Timber management plans were among the first to be put in written form, but written plans were gradually developed for all the resources of the forests until we have them also for recreation, grazing, fish & game, improvements, and for the protection of all of them. Adjustments have been made as required to give preferance on any particular area to the use promising the greatest public benefits. The plans have usually been developed with the idea of perpetuating the various uses, but minor consideration being given to the furnishing of a livelihood for people. With the advent of social planning and the conception of the forests as huge work reservoirs, the place of people and their welfare has become more prominent in the planning picture and is exerting more influence on all forest plans.

The amount of labor which can be employed in the production, protection, improvement and harvesting of a timber crop is very large in comparison with that which is normally required for other forest uses. In the inventories which are being taken in connection with land acquisition, timber surveys, planting, and timber stand improvement work, an excellent basis is being secured for land management and for estimating the volume of work which should be done on the forest areas.

On the basis of the information gathered and the general knowledge of Forest Officers, it will be practicable to decide which areas should be devoted to timber production, which to recreation, fish and game, administrative, and other uses, and also the extent of the jobs which can be foreseen. It is the opportunity of and the challenge to Forest Officers to perfect plans for the use of the forest resources which will contribute to the maintenance of the maximum number of homes for the local dependent population.

* * * * * * *

The Kiel (Wisc.) Woodenware plant has maintained a payroll of 130 employees throughout the depression period, using only about one and a half million feet of logs per year. The company produces miscellaneous small wooden articles such as clothes pins, window shade slats, cheese boxes, etc. H.B.W.



SALT STONE

INDIANA PHILOSOPHY

Come all ye Michigan Jack Pine Savages, ye old Wisconsin Hemlock Splinters and ye old Minnesota Spruce Compression Wooders. Gather round ye old Missouri Scrub Oak Barrel Stavers and ye old Illinois Sycamore Suckers. Listen to a tale from the land of the Hoosiers.

Well, well, that was a good one about how the old boys up amongst the Michigan sandfleas tried to show that Uncle Sam could make a profit for himself a-growing that thar Jack Pine. Hit sure takes a right smart feller to a-figure a profit a-growing that ague strucken wood. Guess they did figure they could pay $1.67 an acre fer some of that there sea wash soil that old Lake Michigan coughed up. Course down here in Indiana we were right smart afeared we had reckoned wrongly when we computured that we could afford to pay $167. per acre for some of our poorest washered soil.

Well, Well, Well and I heered that those Eskimos up there in Minnesota think they can make trees grow on rocks. Well, maybe they can--an Eskimo is plumb peculiar--but Uncle Sam will sure lose tolerably right smart long green if he ever computers thata one.

Reckon I'll stay here in good old Indiana. Poor old George Rogers Clark never thunk when he won Indiana for the Colonists that those old sand, mud and rock Ojibways and Sioux up there would try to get in the Union. Well, I reckon thataway it goes. You let some good landed country into the U. S. Forest Service and you can't get shet of the no account stuff. So long!

THE HOOSIER PHILOSOPHER. G.S.H.

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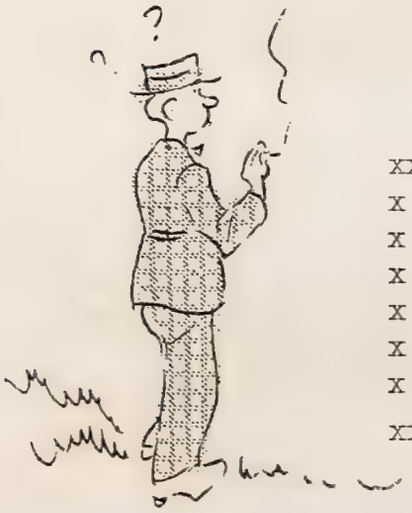

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
x A Careless Smoker x
x Is a Fire Provoker x
x Park Your Sparks x
x Carefully x
x and x
x Save the Forests. x
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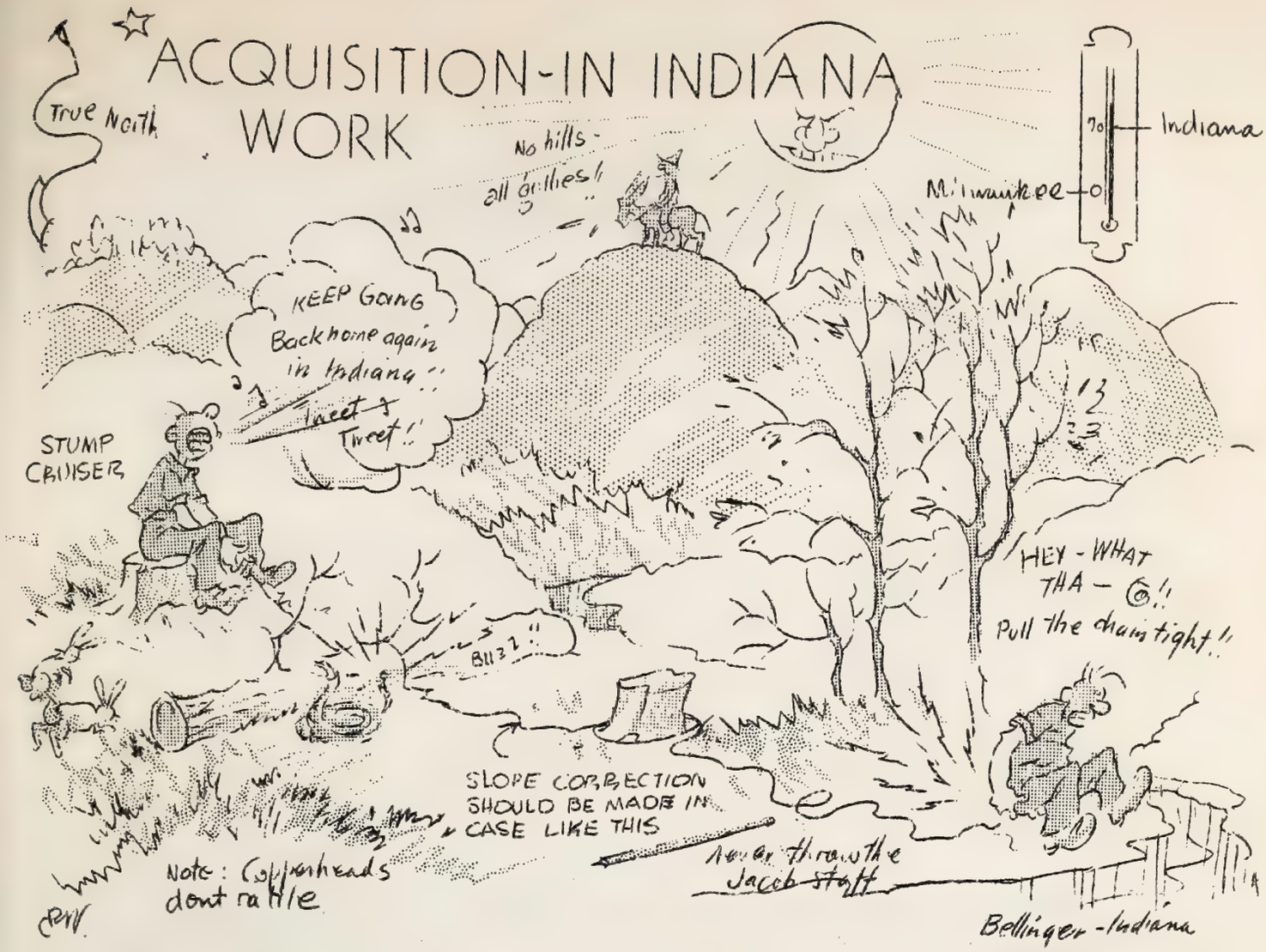

An editorial in the Democrat-News of Fredericktown, Missouri, has the following comment after an afternoon's drive:

> "Woods Fires were less frequent this year than formerly. A mighty good thing. Doubtless the influence of the Forestry Service is largely responsible. Its educational program, typified by its slogan, "Prevent Forest Fires, It Pays" is yielding results."

Considering that 22,580 acres were burned over in 1934 on 2,000,000 acres of protected area in 1934, this is indeed encouraging.

* * * * * * *

Phillips, Wis.
March 1st, 1935.

Dear Sir

Am send you a draft for $8.50 on the cedar post that we got the permitte to cut. So pleas send us the slip back so we could start to cut next week as you will note we are sending the money all in one. Hoping you will answere soon.

Yours truly,

F------- J---------.
Phillips, Wisc.

TIMBER APPRAISAL

By J. A. Donery, Logging Engineer - R.O.

Regulation S-6 issued by the Secretary of Agriculture provides that before any timber is advertised or sold it shall be examined and appraised by a Forest Officer who will base his appraisal upon the character of the timber, the cost of logging, transportation, and manufacture, the investment required, the degree of hazard entailed in the operation, and the sale value of the manufactured products at practicable markets.

In order to standardize principles and methods to be followed in appraising timber upon the National Forests, the Forester has issued standard instructions to guide appraisers in their work, and these have been published in a bulletin entitled "Instructions For Appraising Stumpage on National Forests".

These instructions are very complete and that they are basically sound is borne out by the fact that several billion feet of timber has been appraised and sold by the Forest Service since they were first issued.

While the instructions were issued to assist appraisers in determining the value of National Forest timber to be sold, they have been used to determine the value of timber on lands being acquired by the Government in the large acquisition program which has been in effect for several years.

The governing factor in the use of the standard instructions is a thorough understanding of the principles involved and this can be obtained only through study of the instructions and the application of their principles to the particular case under consideration.

Next in importance to a proper understanding of the standard instructions, is the accurate determination of the cost of improvements, operating costs, and selling prices of the manufactured products. The exercise of common sense, extraordinary care and sound judgment is absolutely necessary in deciding upon the proper method of operating on each logging chance, or unit, and in locating the improvements such as the main transportation route and the manufacturing plant when this is necessary. Logging to established plants is usually a simple matter, but often times involves a decision as to the proper outlet for the timber from a given unit where more than one plant is available.

In order that the Government may obtain the full stumpage value of its timber, and that the purchaser may realize a fair return on his investment, the appraiser should be able to place himself in the position of both buyer and seller and consider all angles of the proposed operation that adequate allowance may be made for each

item involved in both logging and manufacturing.

Since the cost of all equipment and improvements must be estimated, the accumulation of cost data is absolutely necessary as it is by comparison with similar operations that an appraiser is able to most accurately determine the probable costs of operating on a given area or unit.

That the judgment of the appraiser is a matter that enters into all phases of an operation is emphasized repeatedly in the "Instructions For Appraising Stumpage On National Forests", and all appraising officers should develop their judgment by constantly comparing their ideas with actual accomplishment on going logging operations and in operating plants.

The observance of the points mentioned in the foregoing comments, and increased study of the "Instructions For Appraising Stumpage On National Forests" by Forest Officers engaged in appraising timber, should result in a material improvement in the character of our appraisal work.

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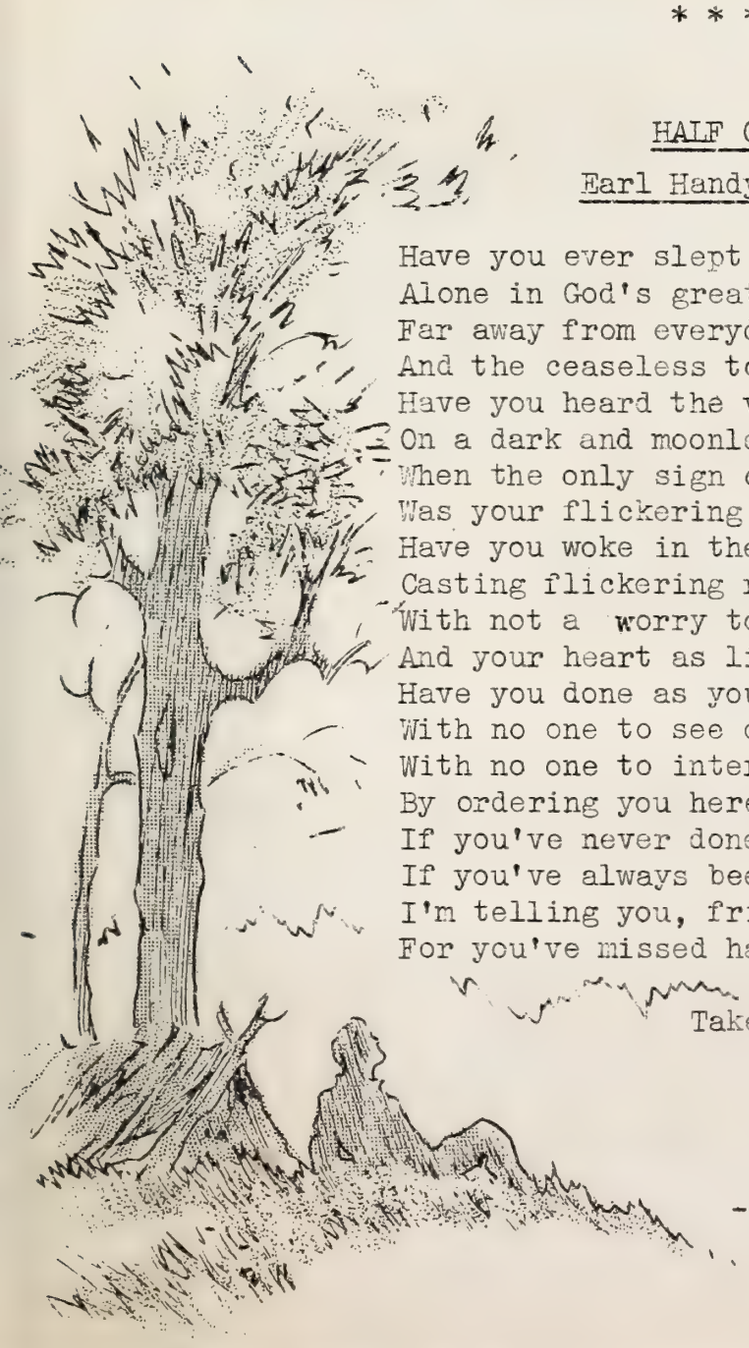

HALF OF LIFE

Earl Handy - Chippewa

Have you ever slept in a brush leanto
Alone in God's great woods?
Far away from everyday work and pain
And the ceaseless toil for goods.
Have you heard the voice of the wilderness
On a dark and moonless night,
When the only sign of a man's presence
Was your flickering camp fire light?
Have you woke in the morn as the sun came up
Casting flickering rays through the trees,
With not a worry to bother you
And your heart as light as the breeze?
Have you done as you pleased the whole day long
With no one to see or care,
With no one to interrupt your dreams
By ordering you here and there?
If you've never done what I've mentioned,
If you've always been in the work and strife,
I'm telling you, friend, "go try it".
For you've missed half of what's good in life.

Taken from the "Chippewa Pioneer"
Bena F-21 C.C.C. paper.

SELECTIVE LOGGING AT INGER CAMP F-27

A. H. Murphy, C. F., Inger Camp F-27, Chippewa.

As a part of our bridge construction program, it was necessary to secure a quantity of 3"x12" timber for decking, and as the Forest Service had a very good sawing contract, advantage was taken of it to get our timber sawn. It therefore, devolved upon us to secure the logs.

A site was chosen along the McAvity Bay Extension Road, between State Highway #46 and the First River, where there were numerous mature and over-mature trees which were not putting on much growth and of which some were ready to die.

In all, we felled thirty-eight standing trees which had outlived their usefulness because of their age and slow growth. We also found a large number of windfalls that were sound except for the sapwood--the heartwood was first-class timber. In addition to these, there were a number of snags felled the previous winter by a crew of NIRA workers who had done cultural work in the area. We cut from two to five logs from each of these down trees.

Altogether, we cut 345 logs of different lengths, the larger ones of 12 and 16 foot lengths, and the smaller ones according to their best lumber uses. Of these, 180 were cut from standing timber and the balance from down stuff. There was very little difference in the quality of any of them.

It is to be borne in mind that in getting out this timber, it was necessary to use the personnel and equipment available and not what a well equipped commercial logger would use.

We had the use of a 35 Cletrac Tractor, which necessitated the swamping of a skidway wide enough to accommodate it, and, in order to avoid destruction of young growing timber, in many cases to carry the logs out from congested areas to where they could be skidded out with the tractor. With a 15 or 25 Caterpillar, with a 38" tread, much of this labor could have been avoided at a substantial saving, but we had to use what we had. The saving in gas and oil would also have been considerable.

The logs were decked by hand, as no parbuckle or loading line was to be had. Two men and a tractor would deck and load in one-half hour as many logs as six men could handle in an hour, had we used a parbuckle.

Another handicap we suffered from was that of inexperienced men. Our company is composed of North Dakota boys recently arrived from dam construction work in that State, of whose willingness and industry no one could complain, but due to their inexperience, the operation was necessarily slowed up to a great extent, not only by their lack of skill with axe and saw, but because of the constant danger of accidents

which trained woodsmen would naturally avoid.

The best estimate we can give of the cost of the operation is as follows:

Cutting, trimming, & Piling slash	32 M.D.'s @	$3.00	$ 96.00
Carrying logs to tractor trail	16 M.D.'s	3.00	48.00
Gas & Oil for tractor	4 days	4.25	17.00
Tractor driver	4 M.D.'s	3.00	12.00
Loading logs on dray	16 M.D.'s	3.00	48.00
Decking Logs	16 M.D.'s	3.00	48.00
Foreman	4 M.D.'s	3.96	15.84
Straw boss	4 M.D.'s	3.00	12.00
		Total - -	$296.84

The logs scaled at 20 M.B.F., made the cost of logging and decking come to some $14.84 per M or about 86¢ per log. Allowing $2.45 per M for hauling and $5.00 per M for sawing, the cost of the lumber at the mill would come to $22.29, which is well within a reasonable figure; and it is to be doubted if lumber of that quality could be obtained for anywhere near that price.

It must not be forgotten that this timber was scattered and among young growing timber that had to be saved, and that this good material, if not removed, would have rotted away and been a total loss and an additional fire hazard for a number of years. Therefore, it seems to have justified the work of taking it out, even in the face of the high cost due to personnel and lack or inadequacy of equipment.

It is estimated that with a smaller tractor and trained men, this timber could have been salvaged at some 40% less, which would have paid the Forest Service a good price for the stumpage.

(Fifty cents an hour is too high a sum to allow for woods labor. This is implied in the $3.00 day for the CCCs. The cost of logging and decking figured on the more equitable sum of 25¢ an hour, would cut the cost of the lumber at the mill at least 25%. - Editor.)

* * * * * * *

ODDITIES IN THE MAIL BAG

Tamms, Ills.

Mr. John Werham

Dear Sir.

I am the man that tinded the Exelender Silkey (Alexander Silica) Co. land. last year. & the Boys was down to see me about it on the 4th and now all the rent I hade to pay for it. was gust to see after it. as thire is not but about 8 or 10 akers, in cultivation, but the boys told me I had butter see or write you. before I started in this year.

Yours truly.

LOGGING

NOT ALL IN ONE BASKET

Russell Watson, Forest Inspector - R.O.

The growing of trees in mixed stands, that is, stands containing several species intimately intermingled, is a basic concept in the forest stand improvement work in Region Nine. The reasons for this are several in number (Including the easy maintenance of a variety of wild life), but two in particular are so important as to command the utmost of consideration. They are essentially the safety and liquidity of the forest.

FIRST: SAFETY OF THE FOREST.

The Government as a heavy investor in national forests above all wishes to keep its capital safe. Large cash dividends may not flow back from the investment immediately, but, like any investor, if the capital is safe it will be content.

There are three principal natural hazards to the safety of the forest, namely; fire, insects, and fungi. Fire control is relatively simple; the others are always difficult and at times seemingly impossible. Such are the chestnut blight, tamarack sawfly, white pine tip weevil, nectria canker, and a host of others.

The simplest, and apparently the most efficacious method of control is that of the thrifty mixed forest. In every case practically, insect and fungi troubles are intensified in pure stands. Pure white pine stands, or those of pure norway pine, pure jack pine, pure aspen or pure balsam, for examples, are subject to exceedingly serious trouble momentarily by sweeping epidemics when conditions get just right, and to local killings at all times.

Yet when the species are mixed--especially hardwoods and conifers--each seems to act in a neutralizing capacity to prevent serious insect and fungi action on the other, and itself.

The natural virgin forest was a mixed forest; and this forest as an entity is probably the most enduring living thing on earth. It is one of the safest forms of capital known. We strive to re-create it on our cut-over lands.

SECOND: LIQUIDITY OF THE FOREST.

Not alone do we want our forests safe, but we want a continuous use of the forest products of them in order not only that a continuous revenue may be returned to the Government and the communities, but also to insure a continuous source of woods employment to the forest laborers.

The joy of a Lake States mixed swamp forest, or a mixed Ohio Valley hardwood forest, is that seemingly some forest products from them are always salable even under most adverse market conditions.

The operators in such forests have generally kept fairly busy during the past five years of woeful business conditions, although the operators in many pure stands have had to cease because of impossibly low prices, for the one or two products they produced.

And no one can foretell the future public demands, which rise and fall, much like fashions, both locally and nationally. A local use may arise through the chance location of a manufacturing plant; it may fail when the plant for one reason or another passes away. Fifteen years ago during the era of the wooden automobile spokes, hickory was sought after energetically; now that market is practically lost. Yet the world's supply of hickory comes from the United States, and surely heavy demands will arise again. No one in 1870 would ever have envisioned the day when white oak for whiskey and beer barrels would have fallen into complete disuse, as it did in 1919; and he would have been a bold operator who would have banked upon the striking restoration of that demand again in 1933.

With each rise and fall in local and national demand, local dislocations of labor and community life are likely to happen, and do so occur as a general thing.

The demands for forest products lifts and declines the same as all commodities, from electric interurbans to washing machines.

If the forest is kept healthy and safe, however, there is no cause for worry. Sooner or later the aggressive forest products salesman will develop or will find markets; until that time the trees will continue to grow in volume and value. But it is apparent that he who has but one species or product to sell is definitely handicapped, and he may find sometimes that he has a fine pure forest on his hands but no worthwhile current market for his products. The owner of the mixed forest is seldom so at a loss.

When contemplating long term investments, it is usually best not to put all of the investment eggs in one basket. At least, such is our forest policy.

* * * * * * *

A tentative inquiry from the Shelterbelt project for a million peeled posts of aspen, norway and jack pine to be furnished each year throughout the life of the Shelterbelt project, has been received. If we finally secure the order it will offer a stand improvement salvage opportunity which will at once justify operations which might otherwise be questionable from a self-liquidation standpoint. It will make possible a thinning in aspen stands on the Chippewa on sites capable of producing excellent match veneer stock and sawlog material. The Experiment Station has demonstrated that thinning aspen results in accelerated growth, but without salvage, the cost of the work could hardly be justified.

EAST VERSUS WEST

Ivan Nicholas, Technical Foreman, Camp Pori, F-47
Ottawa National Forest

The most striking thing the forester from the West notices when he comes to Region Nine is the lack of virgin timber. The National Forests of the West are composed of mature stands often running over 60,000 board feet to the acre. Much of this land is inaccessible except by trails (not truck trails), and in many of the forests the ranger must own a saddle horse and a pack mule. The hour control is a dream which will take many years, even decades, to realize.

The main problem in the West is fire protection, while range management plays an important role in many of the forests, as does recreational uses. The white pine stands of Idaho and the Sugar pines of California must be protected from the blister rust. Occasional epidemics of the dendroctonus beetles require considerable control work in western Washington and Oregon. There is some planting to do, but not much on the National Forests.

Here we have an altogether different set-up. Instead of virgin timber being acquired for the National Forests, the Government is buying mainly second-growth, cut-over, and burned-over lands. There is some work here along the pathological and entomological lines. The fire problem is bad while it lasts. Range management plays a minor role. Recreational developments are coming to the front, but the main problem is planting cut-over and burned-over areas and nursing the existing stands of reproduction (often of inferior species) so that they will produce valuable timber. Cultural work at this writing is taking care of the larger per cent of the work here. The work in the mixed hardwoods, swamp, pine, and small patches of pure stands of hardwood species vary so much that each type and each forty presents a new problem. In the West a pure stand, even aged, will often hold true for section after section.

The West must protect what they have, and the Lake States must start at the ground and bring to maturity a new stand to take the place of that which the loggers so ruthlessly slaughtered a few decades ago.

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THE NEW FOREST SERVICE FIELD CLOTHES

Not a Forest Service "uniform" but Forest Service Field Clothes have at last been decided upon by the Forester and a brief account can be given here to allay curiosity until more detailed specifications can be sent to the field.

The features are an exclusive new color, - bronze green heather

to be used by permanent Forest Service officials only, according to an agreement with the manufacturer, and the elimination of puttees and leggings.

Starting with the hat - a No 6 Stetson, Belgian belly color, 5-1/2 inch crown and 2-5/8 brim for tall men and 2-1/2 inch brim for short ones, in three different weights. The coat is a single breasted, long, loose sack, deep wide pockets with flap and one breast pocket, all bellows style, wide long lapels, rolled to two leather cuttons, two official small badges to be worn on lapels, and belted at the back only. Shirts are light olive gray-green, No. 14 color according to the style book, no shoulder straps, and come in non-figured patterns in cotton, flannel, wool flannel, broadcloth, or in poplin; the color is similar to the hat. When a coat is not worn, the shirt must be forestry green flannel, arctic worsted or serge. A vest is required when a coat is worn. Boots can be only 12 inches in height or the regular service high tops. Modified knickers are allowed in addition to trousers and breeches. A dark green four-in-hand tie completes the picture.

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"A SHARP TONGUE PRICKS ITSELF"

A Nicolet Contribution.

A certain Ranger during the Rangers' meeting at the Supervisor's office on the Nicolet Forest, called on a local garage to see how the work on overhauling one of his Dodge trucks was progressing. As a result of his investigation in this matter it was necessary to have additional work performed other than that called for on the bid and the Ranger accordingly instructed the garage man to do this work.

A few days later the Supervisor's office received a telephone call from the same Ranger, who demanded to know what "thin-faced man" from the Supervisor's office had the temerity to instruct the garage to do "this and that" in connection with overhauling his truck which was not called for in accordance with the specifications on the bid. The party answering the phone was very much taken back and advised the Ranger that it was not the policy of the Forest Service personnel to interfere in any way with bid instructions. However, he advised he would investigate and find out who was the guilty party in the Supervisor's office who would be so audacious. The garage man was immediately contacted and he vouchsafed the information that it was through a "thin-faced man" with the added description that he had teeth missing on one side, that the additional work on the truck was authorized.

The garage man's description of the "thin-faced man" made it very apparent that it was the Ranger himself who was the guilty party.

MORAL: "A sharp tongue pricks itself" (Shakespeare).

INSECTS AND FOREST MANAGEMENT

By Leslie W. Orr, Associate Entomologist

Forest entomologists have long believed that the only practical control measures for forest insects must be based on silvicultural methods. Artificial control by means of chemical or mechanical methods is sometimes necessary as a temporary expedient but can seldom be used with the hope of permanent control.

We must follow the same principle in forest insect control as in the case of fire - namely, that prevention is the keynote to success. We know that many insects have tremendous potential powers of reproduction and that they are, therefore, capable of reaching almost unbelievable numbers in a very short time when environmental conditions are favorable for them. On the other hand, we know that most species of insects do not often succeed in reaching this excessive abundance, indicating that ordinarily the environmental resistance factors are combined in such a way as to be unfavorable. When we analyze the many factors that tend to check the increase of a given insect species we see that there are so many possible combinations that the chance of a condition where all factors are favorable is really rather remote.

Nevertheless, when such combinations of factors do occur we have outbreaks which cause tremendous losses. These outbreaks do not need to occur very often to prove a limiting factor in successful forestry practice. One severe outbreak during the normal rotation period of a forest is often all that is needed to ruin the results of many years of intensive work. For example, witness the effects of the larch sawfly, spruce budworm or the various species of Dendroctonus beetles.

The majority of our forest insect species cause a more or less constant loss throughout one or more of the developmental phases of a forest. Every stage in the life of a tree is subject to the attacks of one or more insects. Most of these species fluctuate from year to year, but seldom occur in widespread outbreaks. The loss which they cause is nevertheless very large in the aggregate and should not be considered as something to be taken as a matter of course, such as has been the policy too often in the past.

To get back to our discussion of environmental resistance, certainly one of the most important groups of factors is that of the organic conditions within a given forest area. With respect to the tree growth, this involves mixtures of species, relative age and crown classes, rate of growth, density of stocking, adaptability of the tree species to the sites on which they are growing, and other silvical characteristics. Associated with and more or less characteristic of each timber type we find certain ecological groups of species of shrubs and herbs, as well as animal life.

When certain of the above factors occur in a suitable combination we find the stage set for an outbreak of some insect pest. From then on, the physical factors of temperature and moisture become the limiting ones. If these are favorable an outbreak is almost certain to occur.

Our problem, then, becomes one of attempting to manage our forests in such a manner as to avoid as far as possible the creating of organic conditions favorable for the various insects that we know are capable of becoming serious pests. In general, our safest course is to follow nature's example as closely as possible. In Region 9, this usually involves the maintaining of mixed stands and uneven age classes. Under intensive management we may find it necessary for various reasons to develop pure stands or mixtures of not more than two or three species of trees on certain limited areas. Although not as desirable as are continuous mixtures over the entire area, from the entomological standpoint, it is probable that if such pure stands are limited to comparatively small blocks, perhaps a section or less, and and interspersed with blocks of other species, we will be comparatively safe.

The same principle applies to age and crown classes, as for example in the case of the spruce budworm hazard in balsam fir and spruce stands. The budworm has caused comparatively little damage except where the balsam was mature or nearly so, and was occupying more than 40% of the upper crown canopy. Forests having large areas of balsam fir or mixtures of balsam and spruce should attempt (1) to keep these species in mixture with hardwoods (2) to reduce the proportion of balsam when in mixture with spruce (3) to develop, through properly distributed pulpwood operations, blocks or working circles of various age classes so that large contiguous areas will not have balsam fir and spruce stands all reaching maturity at any one time, and (4) by proper thinning, releasing and other cultural treatment to encourage rapid, vigorous growth and thus shorten the rotation and consequently the length of the period during which a stand nearing maturity will be exposed to the hazard of a budworm outbreak. The last step presupposes the development of a continuous market for pulpwood products. Under such conditions it should be possible to salvage a large part of the timber in case an outbreak does develop in the stands maturing at any given time.

Forest management practices of the future will undoubtedly place more emphasis upon measures designed to reduce the insect hazard in our forests. The time will come when we shall consider the control of insects just as necessary and perhaps as feasible as we now consider the control of fire.

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Full Praise and Credit is due to the Wanless Ripsaw, C.C.C. paper of Camp F-3, located on the Superior National Forest, for the originals of the two sketches "Hell on Earth" and "The Fire Bug". The Wanless Ripsaw is running a series of excellent and interesting sketches, playing up the effects of forest devastation as opposed to protected and productive forests.

O V E R T H E T O P

WHAT -- Secretary Ickes Dinner
WHERE - Schroeder Hotel - 5th Floor (Crystal Ball Room)
WHEN - SATURDAY NOON - May 25, 1935 - 11:45 A.M.
WHY - To show Secretary Ickes we are on the map.
WHO - Practically the entire Regional Office personnel.

It has gone over with a BANG, the usual Forest Service way.

We had an attendance of one hundred and forty (140) at the dinner for Secretary of Interior Ickes.

Attendance was limited to one thousand - the Forest Service was there 14%, or one-sixth of the attendance. Wow!!

Rudy Wendelin had the badges all ready - the pine-tree place cards had arrived - the center-pieces were there.

The banquet committee made every concession to the Forest Service.

The speaker's table ran the full length of the floor - the Forest Service had the six center tables (each seating 24) right in front of and facing the guest of honor.

The Forest Service party was admitted to the dining room and seated BEFORE the dining room was opened for general admission to others. Ring-side seats.

EVERY FOREST SERVICE MAN WHO HAD A SERVICE UNIFORM, APPEARED IN UNIFORM.

Forest Service party assembled, congregated, gathered, and accumulated in the north-east corner of the reception room just outside the Crystal Ball Room - 5th floor - and made the grand march toward food and fame from that point.

EVERY ONE WAS COUNTED ON AND EVERYONE WAS THERE!

RESULT - - -(OVER)

May 27, 1935.

Mr. E. W. Tinker,
Regional U. S. Forester,
Milwaukee, Wis.

My dear Mr. Tinker:

An outstanding feature of Saturday's luncheon in honor of the Hon. Harold L. Ickes, Secretary of the Interior, was the splendid attendance and interest of the Forestry personnel. This was a matter of general comment among the prominent guests and committee members.

As a member of the committee, and as Postmaster, I feel impelled to express my appreciation, inasmuch as the co-operation of the Forestry staff aided materially to make the luncheon a success - - and reflected great credit upon the Federal Building. Kindly convey my thanks to all of your workers.

With best wishes,

Cordially yours,

(Signed)
Peter F. Piasecki,
Postmaster, Milwaukee, Wisconsin.

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LESPEDEZA IN THE MISSOURI OZARKS

Chas. P. Clements, Fristoe P. U., Missouri.

These ridges in the Fristoe Unit will be dressed in a new verdancy this spring. Some three thousand acres have been sown with lespedeza to date, and it is estimated that when the seeding is completed an area of five thousand acres will be covered.

The main object of this legume will be to retard the sheet erosion and build up the fertility of uplands which have in the past been badly overgrazed and subjected to periodic burnings. Better forage will be provided, incidently, for the embryo game refuges. Roadways will be beautified and the once neglected hills will take on new life.

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The Superior is negotiating with the Hammervill Bond Paper Company on a sale of pulpwood to be shipped by boat to their mill at Erie, Pennsylvania. Other tentative inquiries have been received relative to large sales on the North Shore and on the LaCroix District.

H.B.W.

A BEAR WITH A MEMORY

H. N. Bradford, Cold Springs Camp F-9
Superior National Forest

Last summer a yearling bear became a camp pet. He was around camp under everyone's feet, always on the lookout for sweets of any form or description. Mike, as he came to be called, grew so tame that he would search for food in pockets of trousers. Then came fall, cold weather and snow. Mike was seen no more around camp. Fat and clumsy from his frays in camp and afield; he was curled up in some den. Thru the long cold winter months speculation ran high as to whether Mike would appear in the spring. Came the first warm days of spring, the disappearance of the snow, but no Mike. Had he forgotten? Two weeks ago the question was answered. Mike is with us again. Much thinner, not so tame, but the same old Mike. And he will be with us every day for the next four months to amuse us with his antics, serve as assurance of interest to the fellows, and supply us with tales to tell across the stove on coming cold winter evenings.

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There is little danger of forest fires where the only sap present is in the trees.

THE LARGEST LIVING TREE

The largest living thing on earth is the General Sherman sequois tree in Sequoia National Park. A committee of engineers has completed precise measurements of the big trees of California and has awarded the championship to this tree, with the General Grant tree second, the Boole tree third, and the Hart fourth, this latter being the tallest. Over a thousand observations and calculations with precise engineering instruments showed that the General Sherman giant redwood has a volume of 600,120 board feet, a height of 272.4 feet, a circumference at the ground of 88 feet and one limb alone has a diameter of 6.8 feet. The General Grant tree contains only nine-tenths of the volume of the General Sherman tree but it is larger around at the base, higher, and probably older. The giant sequoias are considered the oldest living things on earth, having ages estimated to be 4,000 to 5,000 years.

Taken from The Forest Pioneer - April, 1935.
Albuquerque, New Mexico.

REFORESTATION ADVANCES

By G. K. Fenger, Regional Forest Inspector.

The past two years have seen noted technical advances in all lines of Forest Service activities, thanks to the several emergency programs and to the thinking Forest officers who, through the application of fundamentals, have pointed the way. The advances have not all been new, of course, but the opportunity to actually apply theories and principles that have more or less remained with us as a dream from the days of the college textbook or casual reading, have brought out many improvements. Planting has certainly come in for its share. In traveling about the Region one cannot help but be impressed with the thoughts and efforts (some good and others perhaps not so practical) toward the successful accomplishment of a large scale planting program. For one thing, I believe we are becoming more "dirt minded". It has been said with impunity that a good planter must live with the soil. The emphasis being given to soil acidity, texture, drainage and colloidal content is evidence that everyone is aiming at a real contribution to posterity, one that will not crumble or decay nor require an annual outlay for polish or repair, commonly thought of in connection with various building structures. This condition is in the form of a perfected and greatly improved American silviculture, in which planting perhaps can claim first consideration because of the importance attached to the proper establishment of the trees that will be harvested by our future generations. Success cannot be assured, however, until every step or factor has been critically analyzed and had the "chaff" separated from the "meat".

One of the important steps is the establishment of stands for seed production and the improvement of these through the elimination of such trees that would contribute either through seed or pollen undesirable hereditary characteristics such as poor form, spiral grain, double leaders, etc. We should not continue the practice of buying seed grown far removed from the planting site. Good seed once produced must be collected at the proper time and stored under conditions that will allow it to cure and ripen properly. For the extraction of seed from cones we have hitherto depended upon more or less imperfectly controlled forced draft hot air furnaces. The possibility of heat injury to the seed was ever present and in addition the equipment and the general arrangement of the extractories was not as efficient as it might be. These difficulties will largely be corrected by a new up-to-date cone-kiln designed by the Forest Products Laboratory. Improved seed storage facilities make it possible to take full advantage of the fruitification periodicity, so characteristic of most of our important tree species, and gather sufficient seed to carry us over the lean years. In the nurseries we are forging steadily ahead toward the production of uniformly well developed stock that will survive and grow in the field if given half a chance. We have learned that each species of seed has its own peculiarities that may be as widely different as day is brighter than night. The expansion of the nursery areas and the production of several hundred million trees, has

BEAL FOREST NURSERY - HURON NAT'L. FOREST - MICH.

A NORWAY PINE PLANTATION - HURON NAT'L. FOREST - MICH.

brought forth the necessity for improved mechanical technique to insure proper care. Examples are the application of liquid fertilizer through the overhead sprinkling lines, as was done by Rindt at the Chittenden Nursery, and the improved stock lifters. Others are in process of development.

In the planting of denuded or understocked areas, we have so far adhered rather closely to the use of one or two year old seedlings, but adverse weather conditions have contributed either new hazards or have stimulated old ones to such an extent that serious consideration has been given to the use of some transplant stock, particularly for the more difficult but productive sites.

One of the chief handicaps in planting is the short season in the fall and spring. The trees cannot be planted in the fall until growth ceases and they must be planted before growth begins in the spring. With a large program this requires a wealth of man-power and efficient organization as well as administration not always possible to secure. What then is the answer? In addition to making full use of every available man and perfecting every step into a smooth running machine, we should be thinking of a number of other possibilities. In the spring the breaking of dormancy may be restricted by holding the trees in cold storage for some time and thus lengthen the planting period. We have not plumbed the depths of the broadcast direct seeding method. Through the use of disc harrows or similar equipment, it is conceivable that many areas could be successfully seeded to jack pine, if the work was done at the proper time and manner. Transplanting of wildling seedlings has been attempted on a small scale with considerable success. Only the other day, examples of successful transplanting of hard maple seedlings were noted. This particular experiment is being done monthly throughout the summer, and the Dukes Station will undoubtedly be in position to give us some valuable information along this line very soon.

Another potential germ lies imbedded in the so-called "pot planting method". If this proves successful it may be possible to continue planting throughout the summer at times when the soil is moist and there are prospects of receiving intermittent rains. It is hoped that this experiment can be gotten under way soon enough to give us some indications of the possibilities for further development.

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The Regional Office Baseball Season is on its way with loud reverberations. A few players are roving from team to team, trying to find a berth on a winning Nine. Unfortunately, all teams cannot be winners and it is rather difficult trying to please some of the players. Under surface rumblings to the contrary, every one seems to be having a good time telling about that "homer" that they might have made.

SEED TREE FARMS

E. D. Clifford, Nursery Sup't. - Chippewa

Back in the days of Joseph, the tillers of the soil were not particular as to the source or quality of the seed sown. However, centuries have passed and the tillers of the soil now sow seed that is of a known strain and has been grown under very rigid rules and regulations. Forestry, so far as the collecting of seed for the use in nurseries is concerned, has for the most part been operating along the lines used by Joseph. The time has arrived for Forestry to jump over centuries and operate their seed collection work on a modern seed collection basis.

Every year in this country thousands of bushels of cones, nuts, etc., are collected to furnish the seed for nurseries. The larger part of the cones are collected by the Federal and State Forest Services for use in their nurseries. These cones are collected, with one or two exceptions, from any trees of the species desired that bears cones, these being for the most part, trees left in lumbering operations because of some defect. This does not mean that seed from these trees would not produce good trees, for in many cases the defect is the result of climate or environment, which might in no way effect the progeny from that tree. However, many of the trees were left because of some heredity defect such as having too many limbs, forked trunk, spiral grain, etc., which will be to a large extent transmitted to the progeny. It is true that a certain per cent of the seed from such trees will produce trees not having these defects. If it were possible to determine just what seed would not produce perfect trees, they could be eliminated and the source of seed would not be of any value. This determination cannot be made as yet, so the only possible control is to select the trees from which the seed is collected. This control can only be obtained by setting aside certain areas containing a high percentage of the desirable trees, as seed tree farms, such areas to be treated to remove all the trees undesirable as parent trees. Also, a further treatment might be necessary to give the seed trees ample room for crown development.

What constitutes a good seed tree? There are many things that enter into the determination of what constitutes a good seed tree. The first characteristics to be considered are those that are most certainly transmissible to their progeny. A good seed tree should have good form, be free from fork, spiral grain, and insofar as possible free from disease.

If the deformity of the tree can be with any degree of certainty traced to some environmental cause such as wind, lightning, etc., it should not be eliminated from the seed tree farm because of the deformity. However, if there is any doubt as to what caused the deformity it would be better to eliminate the tree rather than to be producing trees that might bear these deformities.

If a tree thus qualifies it should then be further examined to see if it has made a good thrifty growth without being favored by some environmental cause over its neighbors, for a thrifty tree made so by better soil moisture conditions or such, is not necessarily more thrifty than its neighbor growing under more adverse conditions.

The seed tree farm may include some area of poor site quality, for thrifty trees on such sites indicates a thrifty, hardy tree which would grow even more rapidly under better conditions.

The trees from which seed are collected should be from middle age to mature, for the young trees and trees that have reached old age and started to decline produce a high per cent of infertile seed. As a rule, the seed from such trees produce weak seedlings.

The properly developed seed tree farm thus presents itself as a stand of middle aged to mature specimen trees in the best of health, making a good growth, each tree being a dominant or co-dominant with a well developed crown extending at least half-way down the trunk. The crown should be wide and pointed to round. Seed collected from such trees will most certainly produce a high percentage of strong, vigorous-growing, high quality trees.

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BACK-TRACKING INTO ANCIENT HISTORY might well be the title of the next issue of the R-9 Bulletin. Far back in the past we are headed. Region 9 is a little over six years old, and the idea of ancient history in this Region will give many a man a big laugh,--but remember, "He who laughs....!" Oh, Well!

Do you know that we have one Ranger in R-9 who has put in over 26 years of continuous service in this Region and practically all of it on one Forest?

Do you know his name?

Do you know that the person who gave this particular man his Ranger's examination is back in this Region after a long absence?

How many other old timers are among your friends and acquaintances?

How much early R-9 history do you know?

Can you sit down and write an interesting account of early R-9 administration, personages, and associated history?

Remember, BACK-TRACKING IN R-9 will be featured in the next issue of the Bulletin. Let us have your stories!!

RECREATION SPEAKS----

The following recreation men gathered at Milwaukee desire to express to our Regional Chief, in this manner, our thanks and appreciation for making it possible to get together and interpret, with common understanding, the policies and objectives of Recreational Development in Region 9.

We came "perplexed but not in despair"; we leave with increased understanding and clarity of vision.

We propose to carry on with enthusiasm but not to be swept off our feet. We aim to create a greater social use with less abuse to our Forests.

We sincerely believe that the Forests of Region 9, being strategically located and easily accessible to fifty per cent of the people in the United States and possessing charm and grandeur, offer that rest of body and refreshment of mind which our toil-wracked and sorely discouraged people need; we, therefore, wish to extend to you our assurance that we shall work to make our Forests a credit to Region 9, as a token of our esteem of your leadership.

To the men who have labored to prepare a Recreational Handbook and who have patiently explained and discussed our problems, we also express our thanks.

To the Forest Service as a whole we would say, "Region 9 recognizes the need and major importance of recreational use properly correlated with other Forest uses, and the necessity of high standards of development. Our plans, our work, our results must bring us to that goal!"

M. D. SWEITZER, ILLINOIS
W. A. WERNER, MISSOURI
J. H. MCDONALD, SUPERIOR
B. D. FERRIS, MANISTEE
D. E. PRICE, CHIPPEWA
R. N. GRAHAM, HURON
J. B. GRAY, CHEQUAMEGON
W. V. KENNEDY, OTTAWA
R. L. CLAYTON, HIAWATHA & MARQUETTE
R. H. GRABOW, NICOLET

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The Central States Forestry Congress met in session at Houghton Lake, Michigan, June 19, 20 & 21. Our Chief, Mr. Tinker, Mr. Wales and Mr. Leavitt were on hand. Mr. Tinker addressed the gathering on June 20 on "National Forest Policies & Practices".

A LONG TIME TO WAIT FOR TREE PLANTING PAY

Clear Lake Breeze - Onway, Mich.

We do not often hear about what took place in this forest reserve during tree planting before the CCC camps were established unless it is how much faster the old timers planted than the CCC boys. So here's an incident that doesn't make us look so dumb after all.

"We had an extra large shipment of trees," said Fred Truax, our Forest Superintendent, "So I hired a few extra hands. They were on the job early next morning and we made a good start, when one of the new men I hired left the line and came over to where I was checking. He wanted to know when they would get their pay. Now that was a question out of place at that time and being "kinda" mad at him for holding up the planting I told him he'd get paid just as soon as "them there" trees had gotten their full growth, were milled, and lumber sold. With that the three dropped their trees, tools, and away they went, bound for town."

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x x
x The land is our capital-- x
x It's products our dividends. x
x x
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CONTACT

A number of the Forests are informing the public of their work activities and the benefits to be derived in extremely interesting ways.

The Huron had fifty men march in a Memorial Day Parade and also placed a float..

The Gardner placed three excellent floats in a parade which drew forth considerable favorable comment. The first float showed a CCC crew in action putting out a forest fire. The second was divided into two parts. The front half was built up to represent a burned-over and cut-over area in Missouri, with a squatter's cabin, erosion taking place, etc., largely the result of mismanagement and poor usage of the forest areas. The second half of the second float depicted an up-to-date National Forest which contrasted strongly with the ill-used area. Productive soils covered with timber growth, Ranger Station, telephone system, and other activities, were shown. The last float showed the game which existed on a protected and well-managed Forest. The whole was constructed by Camp F-11 in the Wappapello Unit.

The Manistee placed an excellent exhibit in front windows of an empty store in Cadillac as part of the Spring Festival. A planting demonstration took place, a timber cruiser's equipment shown, a fire truck, planting plow and tractor were on display, and numerous posters and pictures caused considerable comment.

The Chippewa had a two-day short course at Cass Lake, and later, in conjunction with the Superior, had an exhibit with movies down at the Northwest Sportsmen Show in Minneapolis.

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A FORESTER REPORTS

Sten Taube, F-14 - Michigan

February 5, 1935, 7 A.M., I reported at Jumbo Camp. I was met by a friendly Superintendent, and in turn introduced to several Foremen.

The first impressions of new surroundings and new faces always will linger on one's mind and so guide many future thoughts and actions. I like to preserve my thoughts of that morning, when I shook hands with the men of the supervisory personnel and knew that also I had a job, and a job to my liking.

February and March were agreeable months to our main projects: Timber Survey-T.S.I.-Surfacing T.T.-Firebreaks-Tel. Line Construction. Work was pushed and the accomplishments satisfactory. The C.C.C. boys were mostly old hands and physically fit after 3 to 12 months' enlistment.

Education was well taken care of in this period. Beside the regular educational program under the able guidance of Educational Advisor Calder, forestry classes were held regularly by technical foremen. Subjects taught: T.S.I.- Planting - Scalping - Surveying - Map reading, and Stream Improvements. The veteran Construction Foreman Lectka had in his hands the special welfare education of Leaders and Assistant Leaders.

Fire Presuppression has had its very exacting and thorough attention of Supt. Chapman, who also personally conducted the instruction of a class of men in the duties of fire-lookout. So at the time of writing this, the towers are manned by intelligent and well trained C.C.C. men.

Public Relations, as a subject of utmost importance, has the full consideration of the supervisory personnel at Jumbo Camp. The P. R. information of March 13th released by Milwaukee as regards Ottawa National Forest, has proved very useful in contacts with the public as well as in planned discussions with the C.C.C. men on this subject.

Spring made its appearance by April 1st, as witnessed by disappearing snow and shed winter clothing. We even had an opportunity to plant a consignment of trout in Jumbo and Dover Creeks. Smoke was detected now and then by the tower men, but today, April 15th, a real snowstorm is sweeping the country. The snow removal equipment may be put into action once more.

THE MISSOURI PURCHASE UNITS

Branch of Operations - R.O.

The division of the present Missouri Purchase Unit into two separate administrative units to be known as the Clark Purchase Unit and the Gardner Purchase Unit is announced as effective May 1, 1935.

Forest Supervisor Paul D. Kelleter is assigned to the Clark Purchase Unit with headquarters at 408 Pine Street, St. Louis, Missouri, and Forest Supervisor Galen W. Pike is assigned to the Gardner Purchase Unit with headquarters at Springfield, Missouri.

The Clark Purchase Unit will contain the following Ranger Districts: Meramec, West Fork, Courtois, Fremont, Running Water, Black River, LaMotte, Castor River.

The Gardner Purchase Unit will contain the following Ranger Districts: Spring Creek, Piney, Roubidoux, Turkey Creek, Kings River.

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DAMS AND TREES

Camp Gallia Inkwell - Ohio.

Dams are nothing but a lot of trouble
Made of sweat, rock, dirt and rubble.
A lot of work it takes, and then,
You have to tear it down, and build it again.
Planting trees is more to my liking
Of course, it means sweating, digging, and hiking.
But once you have a tree in the ground,
You don't have to tear it up, and turn it around.
When a tree is planted, then the work is done,
But when a dam is finished, the work has just begun.

A. Rauch.

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A new Wisconsin Law, signed by Governor LaFollette, provides that no taxes shall be levied on farm woodlots that are protected from grazing and fire, and that aggregate not exceeding 25% of the total area of the individual farm. Lands having a slope greater than a 30% slope protected from grazing and managed in such a manner as to encourage the growth of some type of vegetative cover, are not to be taxed.

- Forest Research Digest -

APPLICATION OF NUTRIENT SOLUTIONS TO CONIFEROUS SEEDLINGS.

G. K. Fenger, Forest Management - R.O.

At times considerable doubt has been injected into the theory that nutrients can be applied directly to seedlings successfully. Back of these thoughts lie presumably the idea that the less pampering care the seedling receives while in the nursery seedbeds, the better the chance for success in the field where the competitive struggle for an existence takes place. The seedling that has been given "cod liver oil" during its first one or two years in life might starve and give up the ghost for lack of it after being set out in the forest to struggle along without it.

The California Experiment Station in a cooperative study with the Division of Plant Nutrition has on a modest scale found that the stimulating effect of nutrient solutions upon coniferous species appears to hold over for some time, - at least this is indicated after a year's study in the field.

Seedlings Grown In	Nutrient Solution		Soil Seedbed		Nutrient Solution*	
Species	Survival %	Average Height Inches	Survival %	Aver. Height Inches	Survival %	Average Height Inches
Jeffrey Pine (north)	86	2.62	45	2.05	71	3.01
" " (south)	92	2.87	62	2.78	87	2.96
Sugar Pine (north)	86	1.98	43	1.80	94	2.43
Ponderosa Pine	46	2.17	25	2.07	55	2.30
Sugar Pine (south)	-	-	44	1.62	78	2.14

*Nutrient solution beds were run in duplicate, while soil seedbeds were larger in area to yield the same number of seedlings.

(Compare this with Larson's article "Once a Norway Site Always a Norway Pine Site?". See the correlation?)

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ARE YOU INTERESTED ILLINOIS & MISSOURI?

The Central States Experiment Station has reported a two-acre plantation of red cedar (juniper) in Tennessee, where the owner has refused an offer of $5,000.00 for his 75-year-old trees, some of which were 24 inches in diameter and 75 feet in height. This indicates that the red cedar isn't taking a back seat for walnut or tulip poplar. Perhaps we have overlooked the possibilities of this native conifer.

ONCE A NORWAY PINE SITE

ALWAYS A NORWAY PINE SITE?

Keith D. Larson, C. F., - Chippewa

From information one can gather, it seems that in the past the determination of the species to be planted on a given site was based primarily on the type of conifers that had been growing on the area previous to cutting or burning. This should naturally be a guide to the proper selection. However, other factors of equally as great importance should be considered, such as: has the area suffered one or more heavy burns; has the litter, duff, humus, and top soil been removed by erosion; has a "secondary growth" come in which will affect such factors as the abundance of white grubs, the pH of the top soil, and the protection of the young seedlings?

At present no one believes in the adage (if it was one) that "Once a Norway pine site always a Norway pine site." When an area has been heavily burned, the destruction of litter and humus is not the only loss. The texture of the top soil is changed. The colloids in the upper layer (the depth of damage depending on the intensity of the fire) are decomposed and lose their water-retaining capacity. Then the sand particles act as so many minute beads and conduct the sub-moisture rapidly to the surface. Besides this, fires no doubt kill micro-organisms important to plant growth and make it possible for winder and water erosion.

From the observations made during work with the white grub survey, there appears to be marked correlation between the type of cover to the grub abundance and a possible correlation between the per cent of colloids in the soil and the numbers of grubs present, the number of grubs present in a given soil being inversely proportional to the per cent of colloids in that soil.

If a few years has elapsed since the cutting or burning and the site has been supporting a hardwood stand, the pH of the litter and upper soil may have changed sufficiently to be of importance. Although hardwood litter tends to be alkaline to neutral, most conifers need a slightly acid soil. Furthermore, various types of cover offer varying degrees of protection or hindrance to the growth of young conifers. Past experience seems to indicate that the survival of Norway pine is better where there is a slight cover to protect the young plants.

While conducting site analysis work, it was noted that several areas have suffered damage due to fire, erosion, and "secondary growth" which have changed them from a fair Norway pine to a jack pine site. The planting area on Section 16, T146N, R31W, 5 P.M. has degenerated from a fair Norway pine to a jack pine site. Many other similar areas could be pointed out, such as the area in Section 14, T57N, R25W, 4 P.M., or the famous Jack Smith Burn.

REGION NINE NURSERY PROGRAM.

G. Willard Jones, Nursery Inspector - R. O.

When Region 9 was created in 1929, it came into possession of the Beal and Cass Lake Nurseries, which had been going institutions for quite a number of years, furnishing planting stock to the Huron, Superior and Chippewa National Forests. At that time the annual production of these two nurseries was 8,000,000 seedlings. Since reforestation had been a successful major activity, particularly on the Huron, and since the new Wisconsin and Upper Michigan Purchase Units comprised large areas of denuded forest land, it was evident that reforestation would continue to be a major activity throughout the Region. Therefore, in order to meet the demands for stock to plant up these areas, more nurseries were immediately developed and increased production was started.

Up until 1933 the increase in nursery production was quite normal, but with the advent of the CCC Camps the picture immediately changed and nurseries began to spring up like mushrooms, and production was increased from 11,000,000 in 1933 to approximately 40,000,000 for 1934, with still a greater increase for 1935, or 150,000,000. This increase has also made necessary a change in planting plans. The original set-up was to complete the planting program in 40 to 50 years, but more recent plans set as an objective that the job be finished in 10 years. Obviously, by "stepping up"the work it has not only been necessary to develop new nurseries, but it has been necessary to enlarge the original ones and go into the game of growing trees on a "mass production" basis. The nurseries which at one time were considered large, are now dwarfed by the great size of the newer ones. Eight million annual capacity was maximum for the largest nursery five years ago, but today it is far below the minimum for the smallest nursery in the Region. The production in the present nurseries varies from 14,000,000 to 40,000,000. In several instances where it has been possible to use 1-0 jack pine, the production this year will exceed even these amounts. In acreage the present ten nurseries vary from 14 acres to 80 acres. In order to secure adequate numbers of planting stock, the new ground has been seeded to capacity as rapidly as it has been developed.

The present plans call for a nursery on each Forest, or group of Purchase Units, and it will supply so far as is possible, all of the stock which will be needed on the Forest. Local conditions in some instances, are interfering with this arrangement, particularly in the production of spruce seedlings. Frost damage is more severe in some sections than in others, so that it has been necessary to concentrate the production of this species in the more or less frost-free nurseries although they will not all be planted in the local forest. Principally conifers, native to the particular sections, are being raised at present, exotics being raised and used only on an experimental scale. The nurseries in the southern part of the Region are devoting attention to the producing of some hardwoods, in addition to native conifers, for erosion control and mixed hardwood plantings. When the nursery program for the Region is fully developed and production is in full swing, it will have seventeen nurseries with an annual total capacity of approximately 375,000,000 trees.

SCALPING - PLANTING

REFORESTATION IN MISSOURI, MAN OR MOTHER NATURE

By R. H. Seymour, Junior Forester
Winona Ranger District, Clark P. U., Missouri

There is a considerable amount of discussion among the forestry personnel in the CCC camps as to the planting of pine in the forests of Southern Missouri. True enough, we do need a new growth of pine to replace the inferior crop of oak that we have now, but I just wonder if it will be necessary for us to resort to planting to get satisfactory results.

Like every other phase of forestry in a new locality, this planting question is entitled to a lot of thought, research and study before an extensive plan is instigated. Planting is a long, costly, laborious and not always a 100% satisfactory procedure, and I am led to believe that we do not have to resort to this method on a wholesale scale to restore or re-establish our forests.

The Southern Shortleaf pine that we have here is a very bounteous seeder as evidenced by the stand of young pine east of Winona, where 4 to 5 thousand trees per acre were removed during a recent cultural operation. In going through the woods now, one can stop at almost any place and find evidence of pine, usually in the form of scattered small seedlings and almost invariably in the form of scattered old stumps left by the historic destructive logging operation, and a few scattered seed trees well distributed throughout the stand. I believe that we only have to wait for a good seed year to get our restocking.

The seed trees that are left are sufficient in number and well enough spaced to reseed the area even though they are scattering. On the area of the young pine stand mentioned above, there are few over a dozen seed trees on the area of a section but the greater part of this has been more than satisfactorily stocked. The 8 year drought is now broken and it is only a matter of a season or two before the trees will have regained their vigor enough to put out a real good seed crop. This seed crop will be scattered well and evenly over the whole forest area in the same year. Following this visionary seed year by about 5 years there will be enough culture work in this camp area to keep five times as many men busy as are now at work and they will be used at culture work only.

True enough, we do have rather extensive tracts of land under Government control that are at present cleared of trees and are coming back in sassafrass and Black Jack Oak that should be gotten at and planted to pine so that the area can be brought to productivity more quickly and not left to the natural recovery. However, these areas are small in comparison to the whole forest area. It is my sincere belief that our program should be one of watchful waiting, devoting our efforts to fire prevention and suppression, road building and other improvements and some time given to culture improvement work on those stands of the

present crop that justify treatment.

Let time and nature take care of this big job and we will be kept busy at the improvements and later at culture work when Mother Nature has done her share.

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Seymour has raised a question that requires careful study not only in Missouri but elsewhere in the Region.

Planting standards do not require planting where there is a reasonable chance that, given protection from fire and other destructive agencies, the areas will naturally restock with desirable species. A great deal of study is required, particularly in hardwood regions, to determine whether Nature's processes can be depended upon to give us a good forest. In the meantime, there are undoubtedly, enough old fields and other areas that we know will require planting before they will become productive.

Shortleaf pine may reseed satisfactorily if there are enough seed trees, but the seedlings will have to be helped along by T.S.I. work through opening the overstory.

On true hardwood soils with optimum conditions and plentiful seed, we cannot, if we would, establish a coniferous forest without an exhorbitant expenditure of funds in releasing and re-releasing the conifers. We cannot afford to go contrary to Nature, but neither should we wait 25 to 50 years before making the soil productive.

H. B. W. - R.O.

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AMERICAN LEGION AUXILIARY OF THE STATE OF WISCONSIN TO DEDICATE MEMORIAL FOREST ON JUNE 23.

The American Legion Auxiliary of the State of Wisconsin held a dedication ceremony for their Memorial Forest located on the Argonne Ranger District of the Nicolet Forest on June 23. This Memorial Forest is one of several backed by various organizations in this Region. Several thousand acres of Forests are already established in the Lake States and also in Illinois, under a cooperative arrangement with the Forest Service.

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Mr. S. E. Schoonover, Fiscal Agent, R-9, is now in Washington for a conference.

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TROUT FESTIVAL ACTIVITIES

Mio District - Huron

Two trucks from this camp were entered in the Trout Festival activities at West Branch, Michigan, on May 5, 1935.

The general idea of our entries in the parade was fire prevention; this was carried out by having a fire scarred stump on a bed of sand on one truck, with bracken fern and Jack Pine around it; under the stump were several kerosene flares which when lighted gave off a heavy smoke creating the impression of a burning stump.

The truck following was equipped with shovels, axes, back pack pumps, mattocks and brush hooks or general fire fighting equipment. Two enrollees using back pack pumps were on this truck, showing the method of using these pumps, and giving an action picture in fire fighting.

Fred J. Fehlberg,
Camp Superintendent.

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x Matches alone are not dangerous - It's the man. x
x x
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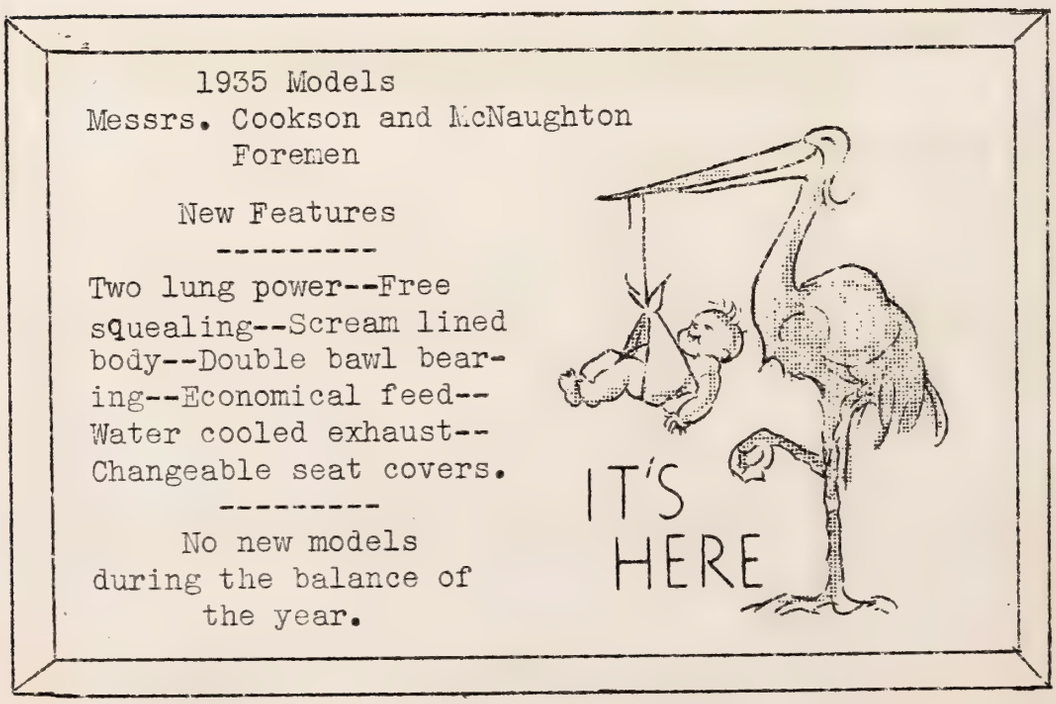
"Timber Notes" - March 11, 1935.

F-15 Chippewa


1935 Models
Messrs. Cookson and McNaughton
Foremen
New Features
Two lung power--Free squealing--Scream lined body--Double bawl bearing--Economical feed--Water cooled exhaust--Changeable seat covers.
No new models during the balance of the year.
IT'S HERE

HISTORY OF THE CHITTENDEN NURSERY

By Lyle Blackman, Clerk, Manistee F-16.

The Chittenden Nursery land was optioned in February and was soon purchased by the Forest Service as an ideal nursery site. It was first to have been called Filbert Roth Nursery but it was later decided upon to name it in honor of Professor Chittenden who, at the time of his death was head of the Forestry Department of Michigan State College.

Work was begun by CWA and NIRA workers who spent about a month and a half in clearing the site. Irons camp then lent a hand and in a short time 10 acres had been cleared and seeded to 6,700,000 jack pine which have already been planted in the forests, and the same amount of norway pine which will be ready for planting next fall. These seedlings started to germinate in April and after much care they began to grow nicely.

On the 9th of May the Manistee River Camp crew was sent there and that's when things began booming. The ground was cleared and stumped, plowed, disced, harrowed, and raked. The overhead water system was completed in October and soon after the seeding operations were started. When the seeding is finished in the spring they will have sown for 113 millions of trees which will be ready for planting within the next three years. The seedlings sown include white spruce, norway spruce, jack pine, norway pine, white pine, cedar, hemlock, and a few black walnut.

The present buildings which have just been completed, are a warehouse, office, pumphouse, oilhouse, and residence. Plans are now being approved for two seed extractory buildings, a greenhouse, two cone storage buildings, a seed cellar, and possibly two more residences.

There is a large amount of landscape work being done at present around the lake, on the hedge, and in the windbreaks on the outside of the nursery proper. It should, and will be a beautiful place in the spring when the seedlings show above the ground and the landscaping is a little more advanced.

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The Huron has devised a record sheet whereon they keep a monthly check of all the public contact work undertaken by its personnel. The people want to be informed,--are you telling them? Lack of information or misinformation often leads to unsatisfactory reactions. We're not all from Missouri,--but we would like to be shown,-- is the average sentiment of John Public.

RELEASE OF PLANTATIONS

By Geo. E. Galer, Camp Supt. - F-11, Huron.

One of the most interesting jobs scheduled for the Goodar Camp work area is the releasing of white pine plantations from excessive shading and competition by sweet fern, dense aspen, and mixed hardwoods.

Here on the Goodar Camp Unit, Mio District, Huron National Forest, there is wide variation of soil types and cover; from open sand plains to heavy clay with heavy coppices. The present cover, which has established itself after logging and numerous fires had destroyed original timber types, is a fair index of quality of timber growing capacity of soil.

Naturally, the more open accessible areas, affording the best planting chances, were the first to be planted. These areas are in most instances, planted to jack and norway pine. The majority of white pine plantations, being made only on the better soils, are usually heavily coppiced and will have to be released within a few years' time.

That the heavily coppiced land is best adapted for timber growth - especially white pine - is readily discernable from the stumps and the numerous old logging roads and spurs. The problem is to get the original species established. To do this, considerable release work will be necessary.

A study of release work done in summer months, say, at the culmination of season growth and a few weeks in advance of the first frost, will, I believe, prove this to be the season best adapted for the work. The advantages of summer release are:

1. A better chance to determine actual shading;
2. Therefore a better chance to tell just what release is necessary;
3. It is believed that total amount of recurrent work can be materially reduced by summer cutting of hardwoods and aspen, as sprouting will be held to a minimum.

A study of tools best suited for use in different cover types should be made. Here is a real niche to fit in the HKP tool, where aspen is too small to use an axe or is too large for a brush scythe. In dense sweet fern a mattock or Hazel hoe will be used.

It is also planned to do some cultivation on a small scale. In nurseries producing medium to large coniferous trees for sale for ornamental purposes, cultivation is a common practice for a few years, after trees are planted. Granted that shading and top soil mulch are necessary in the early stages of growth for protection against sun

scald and excessive drying of the soil, control of excessive competition is just as necessary to secure growth and survival of plantations.

A study of the results obtained is being made by the Lake States Experiment Station, the labor of releasing being done by C.C.C. boys from Goodar camp under supervision of Technicians.

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REGION NINE FOREST TRAINING SCHOOL

A much discussed Training School for the North Central Region opens its doors on June 25, with Louis N. Pommerening, formerly of the Huron, as Acting Director.

The cream of the crop of Technical Foresters from the Units in Minnesota, Wisconsin, Michigan, Missouri, and Illinois, will assemble twenty-four strong for a month's training at the Virgin Lake Camp on the Nicolet Forest at this time. These men are expected to form the nucleus of the personnel to handle the proposed expanded CCC program plus that of any other Public Works Program which may be approved.

The first series of lectures and field trips to be undertaken at this School are listed below:

Inventorial Methods and the Work Planing Job.....Stott
Importance of Tree Associations.....Goldberg
Timber Stand Improvement .....Wales
Recreation.....Bassett
Wild Life.....Adams
The Master Plan.....Nord

The outline of lecture courses indicates that the program includes the study of the primary essentials of any Forest work program. With the first Region-wide Training School as a basis, a more elaborate school is planned for the near future.

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Over 175,000 individuals saw the motion pictures routed to nineteen projector stations in R-9 from November 15 to May 15 inclusive. In addition to the enrollees in the CCC Camps, several thousand local people had an opportunity to view these films.

Five radio talks by Mr. Leavitt, of Public Relations, and two by the personnel on the Ohio and the Huron, were given during the months of April, May and June.

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This issue of the R-9 Bulletin has been a "Whopper". It was all we could do to squeeze in several articles which arrived after the deadline date. Contributions to this Forest Management issue were so numerous that we had to hold some over for the next issue.

PLANTING ON THE HURON

W. T. Murphy, Forest Supervisor

Approximately 9½ million trees on 10,000 acres were planted by the Forest Service on the Huron National Forest in the fall of 1934 in connection with the planting operations just completed. For 23 years now the Forest Service has carried on annual planting projects. The planting was done principally by the workers of the four CCC Camps in operation on the Huron Forest in the past year.

One year old seedlings raised in Forest Service nurseries, were used, jack pine being the principal species used with smaller amounts of Norway pine, white pine and spruce.

An innovation marks the 1934 plantings in that jack pine seedlings were used for the first time. About 4¼ million jack pine were planted, in addition to the planting of 4¾ million Norway pine and smaller numbers of white pine and white spruce.

Jack pine is given favorable consideration on account of its rapid growing qualities and ability to withstand drouth. There is also a big market demand for jack pine pulpwood.

To date, 65,000 acres have been planted on the Huron Forest.

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Notes from Camp Pori, F-47, on the Ottawa.

The personnel of Camp Pori came thru 100% with news items for this issue of the Bulletin. Here is what the fellows have to say:

Clyde Powers, speaking of Truck Trail Construction, states that roads into timbered areas should be of good standard. This will facilitate marketing of the forest products. He believes that good drainage cannot be stressed too strongly, especially on roads forming an important link in fire protection.

R. E. Hedlund, states that Camp Pori has hung up a record of 105 "porkies" from January 1 to March 15. Placing the damage done by the "Quilly One" at $40. annually per beast, he figures the saving of $4,200. can now be used to buy up a few thousand acres of cut-over land. One lad, nicknamed "Porcupine Pete", leads in the kill with 45.

Robert J. Munro, rhapsodizes on shoes, with the snowshoe tripping him up at every step. He says "With a perfect pair of shoes there are 1002 things to cause a spill". And still he claims that "the owner of these perforated ducks feet swears they never give him a bit of trouble."

Robert Horstman, gives thanks to his fellow beings for the job he now holds and the training course he went thru on his arrival. The call of the Woods has got him travelling cool, interesting paths of the forester forevermore.

Cecil A. Mead asks three questions and answers them in the affirmative in regard to the CCC program, its present and future size.

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A GOAL FOR FOREST MANAGEMENT

Roy W. Olson, Ranger, Little Scioto Unit,
Ohio Purchase Unit.

Few persons realize the quantity of wood they use during their lifetime - in home construction, furniture, magazines, newspapers, books, boxes, matches, pencils, writing and wrapping paper, motor cars, sporting goods, and a thousand other articles. From the wood in his cradle to the wood in his casket, the average individual's consumption is equivalent to at least three hundred trees.

Figuring the average span of life to be seventy years, and the population of the United States alone at one hundred twenty million people, means a total wood consumption equivalent to thirty six billion trees, or 514,430,000 trees per year for one generation.

Looking at it from another standpoint, three hundred trees divided by seventy gives a result of 4.1 trees per year, required by every man, woman and child in the United States.

The above figures may not be exact, but the goal of foresters measured in results of systematic management, cannot be taken lightly. Their job from the seedling stage of the tree to the merchantable product, must be measured not only in board feet, cords or poles, but must take into consideration the requirements of some one hundred twenty millions of people, from their birth to their grave. We might even go so far as to mention that wood crating of some kind is usually necessary in the shipment of our gravestones.

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J. Bower asks, "Did you ever check diaries (darry according to one T.F.) when two men met to attend the same meeting and their diaries indicated one man went to the Blue Schoolhouse whereas the other went to the Red Schoolhouse?"

LAKE SHORE IMPROVEMENT AT CHITTENDEN NURSERY

C. A. Rindt - Chittenden Nursery, Manistee

One of the biggest jobs in the landscaping of the nursery is the cleaning up of the lake shore. The lake is of the muskeg type, has a mucky bottom and a border of peat around the edge which supports a growth of typical muskeg vegetation. The landscape plans call for the removal of the peat border and the substitution of sand for the peat to create a sandy shore. The peat is suitable for use on the nursery, so the two jobs (landscaping the shore and getting peat for fertilization) work very nicely together. The only drawback to the work was that there were several thousands of yards of peat to move and no trucks to move it with. There were, however, some small planting tractors that were idle so three of them were put into service, sleighs were built for them and the business of moving peat went ahead in earnest.

Nine sleighs were built as follows:

Runners were hewn out of logs from trees cut during the nursery clearing operation.

Bunks were hewn out of the same material.

Sleigh boxes were made of rough planks

Tractor hitches were made of old cable.

All of the work of construction was done by CCC labor and the total cost of material for each sleigh was $6.50, $6.00 for planks and 50¢ for bolts, all of which can be salvaged when the sleighs go out of business.

The sleigh boxes each hold between four and five yards of peat and because they are so low, are very easy to load and unload. Each tractor has one sleigh being loaded, one being unloaded, and one on the road at the same time, so there is no lost time on the part of either the tractor or the crews as there would be with trucks. The tractors don't get stuck in the snow and the operating cost per yard is a fraction of what it would be for the trucks--if they were available. Most of the time the sleighs are loaded with sand on the return trip. Peat was used around the trees that were set out in the nursery hedges, and the sand that was displaced by the peat was loaded into the sleigh just emptied of peat and hauled to the lake shore where it was used to build up the sand beach where the peat was taken out. The same system was used with the sand from the excavations for the compost pits. Other sand came from the excavations made for the nursery buildings.

The sleighs, besides being very satisfactory from an operating cost standpoint, have made it possible to go ahead with work that would not have been done if we would have depended on trucks.

COOPERATION

By J. T. Van Norman, Manistee River Camp F-16,
Brethren, Michigan.

The well oiled machine, each part functioning perfectly, is the one that wins the race.

The football team that wins a national championship does so, not because of one or two great players, but because each member of the entire team does his part. Some members may not stand out as others but they are constantly doing their part at the right moment, enabling the others to complete a sizeable gain via an end run, forward pass, or a line plunge.

In order to win our struggle against the onslaught of civilization and its constant drain on our wild life, this same winning cooperation is necessary.

What good will come of stream or lake improvement if people keep undersized fish or dynamite our waters? What good, if carelessness with fire causes the ruin of remaining shade where we have directed waters?

One of the best examples of cooperation in this forest is that afforded by the Manistee Chapter of the Izaak Walton League. Knowing the value of stream improvement they took upon themselves the task of securing all landowners' permission for this work. This undertaking saved a great deal of time and work and enabled the project to get an early start on a seven mile gain instead of one of seven yards.

Not having rearing ponds in this forest at the disposal of the Service, the need of which is widely known, the Walton's at Manistee have, after a large amount of work and expenditure, completed a large bass rearing pond. The fish from this pond will stock many of the lakes improved during the past winter by the Forest Service. Thus each organization doing its part will bring about a speedier, more clear cut victory, which, without cooperation could not be realized.

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Enlargement of the Manistique Nursery

Mr. McKennan stated that the City of Manistique, at a recent election, voted to the United States Government a fifty-acre tract of land which will be used as an addition to the Manistique Nursery. He stated that as soon as title work was completed the development work would be started. It was stated that if the entire area is put into seed beds it will give an annual capacity in the neighborhood of 51 million trees.

April 16th, 35

Ottawa Nat. Forests
Kenton, Mich. Attention of Superindent

Dear Gentlemens:-

At herewith I call your Prompt attention as refer about lands that you peoples had boughted from the Ford Motor Co. In this Township & County, of Baraga, such as From Township 47 Range 35 and 48 Range 35,

At now I kindly Request at hereby at what Name should enter into Next coming Tax Roll, U. S. G. Forests, or Ottawa Nat. Forests. Please give your prompt attention at how you want to enter in tax roll,

As they was under the Ford Motor Co. Names Except Exempt from taxes And now I will apprecating your Prompt attention in this matter as supervisor will start write out Tax Roll, at by this time and all those names should to come right way,

Sincerely yours,

Wm. Jacobson, Jr.
Twp. Treas. Township of Covington
Watton, Mich.

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Tom, Tom, the Camper's son,
Dropped a match and off he run;
The fire with ease
Burned up the trees,
And Tom's in jail a-fighting fleas.

- Elcho Eagle. -

Supervisor Al Miller of the Manistee sends in the following protest relative to the February sketch "Trees in the Region 9 Forest."

"This office feels that the Illinois and the Manistee are still a part of Region 9, and this office for one, doesn't like to be slighted. We may only be just one year old seedlings and can't compare with the other "Forest Monarchs" and it may take a magnifying glass to find us, but we do like to be included."

To the Manistee and the Illinois,--Our Apologies. Editor.

CANOE TYPE LIFEBOATS

by
Albert Van S. Pulling,
Chequamegon National Forest.

I have been noting the comments by several authorities on the recent sea disasters. All have agreed that, after the ship got into serious trouble, poor lifeboats and badly handled lifeboats were among the reasons for losing many lives. There has been sharp criticism relative to the use of oars. Various devices to propel the boat by turning cranks have been suggested, and perhaps tried. I have not noted that the Forest Service had commented on the situation. Being concerned with wood uses as we are, a Forest Service opinion may be given a hearing.

For over twenty years, I chance to have been something of a professional canoeist, and have carried on some careful studies on the use of paddles and canoes. Though less efficient than the oar, the paddle is a more natural implement, and may be used in a more restricted space. No leverage is needed except the gunwale of the boat, and by means of a paddle, a boat may be moved in any direction, from any place in the boat. It is true that an oar may be used as a paddle, but a lifeboat oar is pretty large and cumbersome. One good paddler can keep a lifeboat properly headed, no matter how ungainly the efforts of the other occupants. Ship crews can be trained to paddle as easily as they can be taught to row. Oars may be used once the boat is clear of the ship. Paddles should be better in getting clear, in a crowded, confused craft.

The design of the lifeboats I have seen appear to be alright. I have never used one of them. I studied them pretty carefully during my voyage to France during the late war, and those boats and most of the other boats I have seen looked as if they would leak until they were soaked up.

Irrespective of size, I am suggesting canvas covered canoe construction. Bark covered American Indian canoes up to thirty-six feet in length, and with a capacity of five tons, were formerly made. If a lifeboat was made with the ribs, and planking of some of our good American cedars, with stems, thwarts, and gunwales of white oak, all fastenings designed to resist salt water, and covered with properly filled canvas, such a boat could hang on the davits for ten years without the slightest possibility of leaking a drop when it was put in the water for the first time. It is my belief that the boats should have new canvas put on them every ten years. The boat itself would last indefinitely--thirty or forty years at least, if it was properly finished and kept covered.

A medium sized boat of this sort would be light enough so that a few men could take it off of the davits on the windward side, to launch it on the lee side, if necessary. Boat decks are usually very

high, on big ships, but light lifeboats of canoe design, could be more easily controlled in their descent from the boat deck in a rolling sea, and relatively light boats, with a canvas cover, are less likely to leak, even if they are injured from a blow against the ship, than are all wood, or all steel boats.

Special construction should be devised through collaboration with internationally known canvas canoe manufacturers, such as E. M. White and H. G. Chestnut. The simple handling technique, known to all aboriginal tribes who used canoes should be adopted. This technique, peculiarly enough, has apparently never been used by white men, with the exception of those who came in close contact with the natives, and the more notable exception of the Venetian gondolier.

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FOREST SERVICE BUILDS NURSERY

On Friday, May 10th, the Forest Service arranged to establish a Nursery at Watersmeet, Michigan. By five o'clock the next morning the ground was being plowed on this site for spring seedling. The nursery area is now being seeded.

Plans call for 11,000,000 Norway Pine trees and about the same number of Jack Pine. The Jack Pine will be ready for planting by this coming fall or next spring. The Norway Pine will be ready for planting by the fall of 1936.

The Forest Service, according to Supervisor Bean, plans to plant 35,000 acres per year on the Ottawa National Forest, which includes the Forest that was formerly under the Kenton headquarters as well as the new Gogebic Purchase Unit. At this rate, providing fire is kept out, there should not be an acre of land on the Ottawa Forest that is not producing trees by the year 1946. This Nursery at Watersmeet is the first step in the attainment of this objective, and is one of the most important steps in the putting of every acre of usuable land into actual production.

Mr. Howard Schneider, formerly Assistant Nurseryman at the Beal Nursery on the Huron National Forest, will be in charge of the Watersmeet Nursery.

It is planned by this coming fall to have a set of buildings on this site and preparations will have been made to seed several million more trees in this nursery.

GREENVILLE FLOOD

Fred Blaschke, Technical Foreman - Mo.

On Saturday March 9, 1935, at 10 P.M. a rain started that did not cease until it had caused considerable damage through high water and floods.

Early Monday morning, March 11, word came to Camp F-5 that high waters were rapidly approaching Greenville; that the water would probably rise to enter the ground floors of buildings in the lower part of town. The townspeople needed help; they had to raise their household goods on stilts or move them to higher ground, and they didn't have much time in which to do it.

Co. 726, Camp F-5, turned out in a body, boarded all available trucks and went to town. When we arrived, the water was already several inches deep on the main street and was rising at the rate of 10 inches every hour. The boys worked valiantly in aiding people to move furniture and supplies to higher places.

The constant downpour of rain, which had only stopped for a short time on Sunday afternoon, could have made it a miserable job. No thought was given to that, however, but rather just the doing of the job well and as fast as possible.

About 11 A.M. the call was sent out for all trucks and men to clear out. The flood was going over the road leading back to camp and in a short time it would have been impossible to get the trucks through. The last truck to come out was stalled as the flood got up to the engine. The crew jumped out into waist deep water to push it out and Co. 726 was on its way back to camp, sorry it could do no more to help.

The rain did not cease until 10 P.M. Monday and the flood at its peak made the highway impassable for a stretch of more than a mile. No car was able to get into town until Tuesday morning about 9 o'clock.

It was Wednesday morning before much could be done in the way of cleaning up and again Camp F-5 went to town. Mud was thick on floors, the water having risen in some cases as high as 3 feet above the first floor level. The entire day was spent in helping those who needed it most.

On Tuesday night, March 26, the citizens of Greenville held a dance and feed for the CCC boys in appreciation of their aid during the time of the flood and in the cleaning up afterward. The mess hall here at camp was cleaned out for the occasion and a good time was had by all.

DEER DRIVES ON THE MANISTEE

By George H. Kelker

During the last week of March, four deer drives were conducted by three camps in the south-central part of the Manistee Purchase Unit. The drives were made on upland, and all but one contained small muskegs and ponds. In certain localities the deer stayed in the hills all winter in spite of a foot of crusted snow of two weeks duration. Hence those areas covered by the drive represent local conditions on the Forest.

The area chosen, from one to three and one-half sections, was first entirely surrounded on three sides by men, each man being able to see all the ground between him and the man ahead. He counted only those animals that passed between him and the next man. This eliminated any duplication. The deer that broke through the line were reported by leaders of the crews covering that ground. Many animals frequently were looking for a gap in the line, and continually traveled back and forth just out of sight of the drivers.

A drive was made by Sauble River Camp on November 10, 1934. This was the only fall drive. It was during rutting season before any snow had fallen.

This method is excellent for counting large animals but gives, at best, only an estimate of the smaller animals. Hence, some other method such as a trained dog must be used to get the population of birds and rabbits.

These drives each represent sample areas of approximately half a township. Beyond that, no estimate will be made at the present writing. Food plots are being established in all camp areas and in all types to correlate food preferences and abundance with density. Not until after such data is secured and tabulated can one say that there are too many deer. There is local agitation to have these counties open for hunting this fall instead of waiting for the season to automatically open in 1936. Only after the Forest Service knows the conditions will it make recommendations pro or con with reference to an immediate open season.

A summary of the drives are as follows:

Camp	No. of Deer Counted	Acres Covered	Acres per Deer	Dead Deer Found
Bitely, F-22	73	1120	15	0
Bitely, F-22	90	1360	15	1
Walhalla, F-23	40	520	13	4
Baldwin, F-42	55	2240	41	7
Totals	258	5240	20.5	12
Sauble River, F-19	118	1240	10.5	0

Half of the dead deer are known to have been killed by hunters. Cattle grazed more or less heavily, over each of these areas, even in the winter.

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SEEDING MACHINES

Harry C. Turner, Planting Assistant - Huron.

For several years past, one of the regular winter time jobs at the Beal Nursery has been the making up of one or more seeding machines for other nurseries, not to mention a few acid sprinklers and seed bed levelers. Up to date, twelve seeders for outside nurseries have been built here, all but two for Region 9 nurseries. The current job is the construction of seeders for the Ware and the Licking nurseries. These are the first ones made which did not contain improvements over the one made just previously; in other words, temporarily at least, we have run out of ideas for improving them.

The first seeder was made up in 1926, by Ralph Johnson and the writer, from parts of a discarded grain drill. These feeds were badly worn and it was necessary to patch them up with tin to prevent leakage of seed. This was true even of new feeds of the same pattern. The last six or eight, including a new one of our own, is made up from parts put out by the International Harvester Company which are ideal for the purpose. In spite of the fact that they operate easily, they do not waste any seeds even as fine as white spruce.

At first the seeders were made for sowing broadcast entirely, and it was, of course, impossible to arrange them for covering the seed. Nowadays they are made for sowing in drills, which arrangement permits of covering the seed with the same machine.

While a seeder of this kind is valuable from the standpoint of saving labor, it is equally so as to evenness of seeding in comparison with hand sowing. All in all, the development of the seeder has been quite an item in the sudden increase in nursery output in Region 9.

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We are planning for heavy recreation use of our National Forests and are increasing our improvements to take care of the heavy demands. Last year, 1934, the National Forests in this Region had 5,731,000 visitors and we are planning for an ultimate recreation use by 40,000,000 persons. Our policy in the development of recreation land is that preference be given that form of occupancy representing the highest utilization of the area on the basis of broad public service and interest.

(A note from Branch of Lands.)

A LETTER ON LAND ACQUISITION

Elizabethtown, Illinois
May 2, 1935.

Mr. C. E. Knutson
Forest Supervisor
Harrisburg, Illinois

Dear Sir:

I am wondering if there is anything that you might possibly do to arouse the Forest Service from its seemingly eternal siesta, induce it to get its feet off the desk, the ashes off its vest, its head out of imaginary "clouds on title", peel off at least the outer sixteen inches of red tape with which it seems to be swathed, and try to get some checks delivered here in time to pay the funeral expenses of some of the grandchildren of the original vendors.

Some of these options have been given over a year, our local abstractors have worked over time to expedite matters, finished abstracts for over 8000 acres of land have been sent in, much of it several months ago and the net result so far is executed deeds on two forty acre tracts; and no money in sight for them - and when you ask one of these natives to make and record his deed and the money will be sent to him from Washington, it impresses him just about as favorably as tho I had told him to write to Santa Claus for it.

The Government sold this land to the forebears of these people for 12½ cents per acre and swindled them at that, now, after three generations have starved to death on it they are buying it back again for about the price of a good dinner and a bottle per forty and it does seem to me that a few more technicalities in title could be waived than if they were buying real estate around the Battery in New York or the loop district in Chicago.

The Service is getting to be just about as popular here as a skunk at a Sunday school picnic, options have practically ceased to come in, 99% of those who have signed options tell their neighbors that if they had them back they would not sign again and when you talk to a bunch of them on the street about selling their land they look at each other with a "don't cross him, he might become violent" sort of an expression and quietly edge out of the picture. The seeming "hoss swapping" method of fixing prices has not helped the matter any either. The average native really enjoys putting in ninety days buying a ten dollar brindle calf, starting the bid at $6.25 and raising it two bits at a time each thirty days until he reaches $8.75, but he does not enjoy the same tactics practised on him - he never knows just when to turn loose.

If one were endowed with the traditional nine lives of the cat and each life carried the longevity of a Methuselah, he might under the present regime, acquire quite a little acreage of this land. Other than the matters I have mentioned, I think everything is going along

fine and everybody is happy.

Thanking you for anything you may be able to do, I remain

Yours very truly,

E. F. WALL, Jr.

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The thoughts expressed by this cooperator are regrettably based on the approximate conditions described. We have taken the bull by the tail and looked him squarely in the eye. As a result we conclude that more money paid instead of more promises made is now, as in the days of Poor Richard, the essence of integrity. In regard to his remarks concerning the practise of dickering, we now have soil schedules approved for all the southern States in the Region that should obviate the possibility of such an accusation in the future, except as it might apply to a reasonable amount of trading necessary to the meeting of minds in any contract. We did have an unfortunate start in Illinois with too low a soil schedule. The fair revisions of that schedule brought about the general boosting of prices and some resentment against the apparent dickering practices. Mr. Wall has been very cooperative with the Forest Service. - Lands.

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TRAILING THE MEN IN THE FIELD

With the summer field season well on its way, keeping track of the Branch Chiefs and their staffs is like watching a Mexican Jumping Bean,--"In again, Out again and Back again!"

1. Right now H. Coleman is in Missouri, Scott Leavitt in Michigan, Earl C. Sanford and Sullivan in the U. P. We can't guarantee they will be there when we come out in print.

2. New additions to our force over the past couple months include Manly G. Thompson, Assistant to the Solicitor General from R-2, and Flora C. Pearson, a transfer from the Washington Office, understudying Ruth Waters as Mr. Tinker's Secretary; Joe Donery, Logging Engineer came from the West a couple of months ago; Oscar Lindh transfers to R. O. to Branch of Lands from Missouri.

3. Stockdale and Major John D. Guthrie from Washington, dropped into the office for a short visit.

4. Unreported previously, but C. L. Harrison is the new Assistant Supervisor on the Chippewa and has been these last few months. Arlie Toole, Acting Supervisor on the North Dakota Units; Ray Iverson from the Nicolet as Ranger to the Iowa as Assistant Supervisor.

5. Our old comrade-in-arms Maaske leaves Central Purchase in R-9

on a transfer to the Shelterbelt at Lincoln, Nebraska. We'll miss him.

6. Bill Ihlenfeldt, formerly of R-9 in Fiscal Control, and now also at Lincoln, dropped in on his way to a conference in Washington.

7. Several meetings have been held in Milwaukee since the last report.

The Supervisors met May 2-4 and had their usual fact-finding and demanding conference.

The Forest Recreation Specialists were rounded up and inspired by Ray Bassett, R. O. tophole Recreation man.

The Railway Fire Inspectors of Michigan, Minnesota and Wisconsin held a two-day session with Al Hamel which promises closer cooperation between the States and Federal governments in reducing railroad fires.

The Timber Operators and Owners on the Ottawa came down for a session with Mr. Tinker and Mr. Cook.

8. Miss Margaret Marchmount is now in the field stirring up and welding the opinions of various Women's Organizations, making them conservation-minded and plantation conscious.

9. Louis A. Pommerening has been called in from the Huron as Acting Director of the R-9 Training School which is to hold a short session starting some time in June.

10. Other transfers:

Bruce C. Strickler from Central Purchase to Executive Assistant on the Nicolet.

E. L. Bersley transfers back to the Chippewa after a short sojourn on the Nicolet. Berz must like that fishing around Cass Lake.

Doughlas Bitzer transferred from Chippewa to Indiana. Doug is to handle the new Indiana nursery at Bedford.

Earl Wilson from the Chippewa to North Dakota. Also as nurseryman.

Gus Limstrom has been transferred to the Clark Purchase Unit in Missouri from the Huron.

Harry K. Ebel has been transferred as Assistant Clerk to the Upper Michigan.

Emil Strench recently of the Chippewa, is now on the Gardner as Executive Assistant.

WHO'S WHO IN FOREST MANAGEMENT

WASHINGTON OFFICE

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F. A. Silcox, Forester
E. A. Sherman, Associate Forester

Operation	Lands Management	Finance & Accts.	Forest Management	Range Management	Information	Engineering Research

E. E. Carter - Chief of Branch
J. A. Fitzwater - Inspector

R-1	R-2	R-3	R-4	R-5	R-6	R-7	R-8	R-9	R-10

E. W. Tinker, Regional Forester

O	L	FA	FOREST MANAGEMENT	PR	E	SR	LC

H. Basil Wales - Ass't. Regional Forester in Charge
Gunnar K. Fenger - Ass't. To Ass't. Regional Forester

Management Plans - Earl C. Sanford, Regional Forest Inspector
Logging Engineering - Joseph A. Donery, Logging Engineer
Planting
Nurseries - G. W. Jones
Timber Stand Improvement - R. S. Maddox
- Russel Watson
Insect Control - Leslie W. Orr, (Coop. Bureau Entomology & Plant Quarantine.)
Office Ass't. - Ralph W. Sloss
Ass't. Clerk - Helen T. Bruha
Stenographer - Mary McCarthy

PERSONALITIES

E. E. (Nic) Carter - A solid conservative Forester with wide experience

in the service and as a Professor at Harvard. A leader in Forest Management circles.

J. A. (Joe) Fitzwater - Graduate of Yale. An original R-9 product since he was Supervisor in Charge of Superior in 1909-1910, through the ranks in R-1 and 4 to the Washington Office. Known as "Jack Pine Fitz" on the Superior, indicative of his early conception of value of Jack Pine and its place in present day management. Knows his "ducks" as well as his trees.

H. Basil (Bass) Wales - Graduate of Michigan State College and Region 3, where he was successively Forest Assistant, Forest Examiner, Supervisor and Regional Forest Inspector. He rode a hobby (a nursery about 4x4 borrowed from Mrs. W's flower garden - 60 species raised) into 20 large nurseries with a capacity of 350 million trees annually.

"Gunnar" K. Fenger - Graduate of Minnesota, with training and experience in R-2 and on Chippewa and Huron.

Earl C. (Sandy) Sanford - Graduate of Michigan State. Came here from R-4, where he was successively Forest Ass't., Forest Examiner, Ass't Supervisor, Supervisor, and Administrative Assistant in Forest Management. Also saw service with the Forestry Engineers in France, returning a Captain.

J. A. (Joe) Donery - A true R-9 product since he served on the Chippewa in the early days. More recently Logging Engineer in R-2. Joe knows his costs and appraisal figures.

G. W. (Wibb) Jones - Graduate of Montana and of the Savenac and Rhinelander nurseries. "When Better Trees are grown, Jones will grow them."

R. S. (Rufe) Maddox - Graduate of Yale and of the Plumas National Forest in R-5. State Forester - Tennessee for many years but came to R-9 on Erosion Work from West Virginia and Monongahela National Forest. Transferred to F. M. when the Erosion Camps went over to the Soil Conservation Service.

Russell (Rus) Watson - Graduate of University of Michigan. Early experience in the Service and as Instructor in Forestry at his Alma Mater. More recently a Consulting Forester and a partner in Bonzhoff & Watson, Inc.

Leslie W. (Les) Orr - Graduate of Minnesota (Forestry), specializing as a graduate student on Forest Entomology. "Les" knows his "bugs".

Ralph W. (Bob) Sloss - Graduate of Michigan State. Experience on the Plumas National Forest in R-5 and as Assistant State Forester in California. More recently engaged in wholesale lumber business and Camp Superintendent, Kentucky Camp - Hiawatha.

Helen T. (Helen) Bruha - Business College graduate. Experienced as stenographer in business world and in the Treasury Department in Washington. Transferred to R-9 in the summer of 1931, and grew up with the Region.

Mary McCarthy - Pretty much of a new comer but she handles the technical terms like a veteran.

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NOBLE ELM ON FRISTOE

Edward M. Howell, Principal Forest Ranger - Missouri.

This tree dominates the court house square at Van Buren, and during the intense heat of last summer's drought was appreciated probably more for its shade than its beauty. The village loafers who make it a point in this country to rise early so as to get in long hours at their favorite pastime followed the shade of this tree much as their story book ancestors. Undoubtedly some of the Forest Service employees envied them at times.

Information about this tree was obtained from Mr. J. J. Chilton, a man nearly eighty years old, and a lifelong resident of Carter County. Mr. Chilton has a remarkable memory, is keenly appreciative of history, and takes a great deal of satisfaction in relating happenings of other days.

What is now the court house yard was cleared in 1820 and farmed until the Civil War, when it and other parts of the town were occupied by Federal soldiers. The field was abandoned following the war and lay idle until 1871, when the present court house was erected. This tree, another elm, and a locust were preserved at that time for shade trees. The tree is an American Elm, is three feet D.B.H., has about 100 feet spread, and is also about 100 feet in height. It was about eight feet tall when the court house was constructed, so that it is now probably about eighty years old. Located as it is on very fertile soil and with ample space to develop, this tree should grow to really wonderful proportions.